The CHEMIST AND DRUGGIST

Established 1859

28 Essex Street, Strand, London, W.C.2

Registered as a Newspaper

No. 2949 VOL. CXXV

AUGUST 15, 1936

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AN APOLOGY

To Messrs. Macleans Limited,

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Dear Sirs,

We desire to express our regret for having sold Stomach Powder not of your manufacture or merchandise in cartons bearing the words: "Maclean Brand Stomach Powder". We acknowledge that the use by us of your Trade Mark "Maclean Brand" was wholly unauthorised by you, and, in consideration of your refraining from instituting legal proceedings, we hereby undertake that we will forthwith discontinue the sale of such Stomach Powder.

We confirm that we have delivered up to your Solicitors all labels in our possession.

We further undertake that we will not at any future time sell or offer for sale stomach powder, or any other preparation, under or by reference to the words "Maclean Brand" except such as are of your manufacture.

You are at liberty to make such use as you think fit of this undertaking.

Yours faithfully, (Signed) p.p. Giles Cash Chemists Ltd.

W. Tregenza,

Managing Director.

WARNING

"Maclean Brand" is the exclusive trade mark of Macleans Limited and is used by them in respect of pharmaceutical and toilet goods. Proceedings will be taken against any person, firm or company who apply the words "Maclean Brand" to pharmaceutical or toilet preparations not of the manufacture of Macleans Limited.

Big possibilities in this

new DOG FOOD!

CIAPPIE

SUARANTEEING GOOD CONDITION

MADE IN ENGLAND

A meat food for dogs-in tins, ready to eat!

Dogs must have MEAT if they are to keep in good condition: Breeders and kennel-men know it—and the public is rapidly learning.

Now, in this handy form, hygienically packed and smartly labelled is your answer to the problem—a big

problem because at least I home in 4 has a dog. "Chappie" contains fresh, Government-inspected beef, whole grain cereals, cod-liver oil, etc., making a complete and balanced food.

NATIONAL ADVERTISING

— and free sampling scheme

The big-circulation National morning papers, such as the *Daily Mail*, the *Daily Express* and the *Daily Telegraph* will carry the advertising. So will the leading dog papers like *Our Dogs* and *The Dog World*. The advertisements will be ½ pages and other large sizes.

In the opening stages every paper will carry an advertisement with a free coupon so that your customers may make a trial without cost. And every tin you give out in exchange for a coupon will be replaced free!



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(per case of 4 doz. tins).

17/6 per case, carriage paid for any number of cases up to 7.

17/6, less 5%, carriage paid, for any number of cases from 8 to 19.

17/6, less 10%, carriage paid, on 20 cases and over.

All the above prices are also subject to an extra $2\frac{1}{2}\%$ Cash Discount.

"CHAPPIE" IS A PROVED SUCCESS

Proof 1

"Chappie" is going fast and repeating heavily in all the places where it was first distributed.

Guarantee)
of Sale

"Chappie" Dog
Food is guaranteed
to sell and we will
return your money
for every tin that
does not sell.

Enquiries and orders to usual wholesaler or to

Chappel Bros. Ltd., Pendleton, Manchester.

Proof 2 IT HAS BEEN PROVED ON OVER A THOUSAND WELL-FED DOGS THAT "CHAPPIE" IS PREFERRED 98 TIMES OUT OF 100 TO ANY OTHER FOOD.



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A NEW PREPARATION TO CREATE NEW SALES

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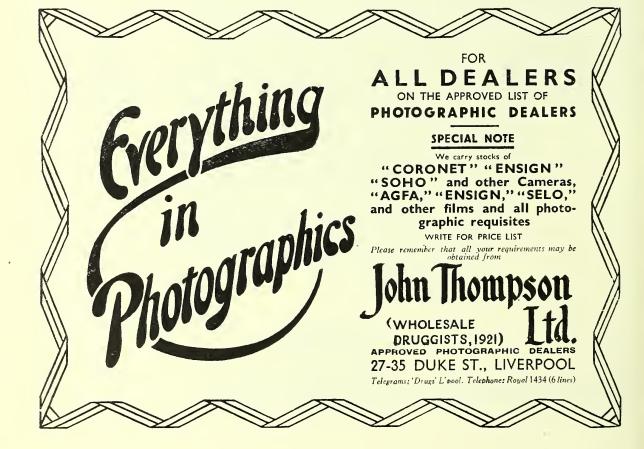
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VENO DRUG CO. LTD.

CHESTER ROAD . MANCHESTER . 16

The sales do not cease, to astonish us ...

AN UNSOLICITED TESTIMONIAL

(Original can be inspected at our offices)

"... These goods are urgently required as the season is on us, and we do not wish to interrupt the success your C.O.B. lines are having. The sales do not cease to astonish us, nor have we ever had any lines which so aroused the enthusiasm of our assistants."

Yours faithfully,
(Signed) R. E. M. L.



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IT COSTS THE PHARMACIST-

NOTHING

NOW READY

2 EDITION

Write TODAY for your copy of this interesting book, and get to know more about our comprehensive service.

ARTHUR H. COX & CO. LTD.

MANUFACTURING CHEMISTS SINCE 1839

THE LABORATORIES, BRIGHTON, 7

In addition to

SCHOLL USUAL PUBLICITY a great AUGUST 'EXTRA' CAMPAIGN

FREE

for your

Window Display 'Pledge'



2

FREE PACKETS

Dr. Scholl's TARSO PADS

For your pledge that you will make a Display of Dr. Scholl's Aids to Foot Comfort in your window to coincide with the August 'Extra' Campaign of Scholl Advertising, we offer you TWO FREE PACKETS of Dr. Scholl's Tarso-Pads with every dozen of any of the Foot Comfort remedies and specialities listed on a special order form.

The more of these quick-selling remedies you order, the more free packets of Dr. Scholl's Tarso-Pads you receive. And Dr. Scholl's Tarso-Pads are the most popular of all the listed lines: millions are sold every year.

starting August 15th

In addition to a heavy programme of day by day, all-the-year-round Scholl Advertising; in addition to the great concentrated effort of Dr. Scholl's Foot Comfort Week—now comes another intensive nation-wide campaign to send foot sufferers to you for Dr. Scholl's world-famous Aids to Foot Comfort. From August 15th onwards, Whole Pages and other large spaces in page-dominating positions will appear in all the most important newspapers of the country.

The emphasis in this August 'Extra' Campaign

will be on all the easy-to-apply, easy-to-display, easy-to-sell remedies for the relief and correction of all those common foot troubles from one or more of which practically everybody suffers.

Foot troubles have always been widespread. But to-day, the public realises that there is no need to suffer from any form of foot trouble; that for every type and degree of foot ailment there is a Dr. Scholl Appliance or Remedy scientifically designed to give immediate relief and lasting comfort.

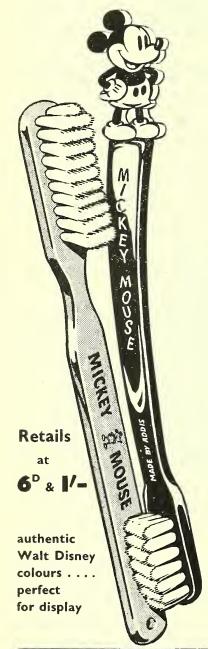
So—at a time of the year when the effects of foot suffering are most felt and most seriously inconvenient — this 'extra' campaign of Scholl Advertising will be of maximum effectiveness.

BONUS OFFER IS AVAILABLE TO YOU UNTIL AUGUST 31st

If you have not had a copy of the Advertising Broadsheet and Special Order Form, write now to The Scholl Mfg. Co. Ltd., at the address below.

The Scholl Mfg. Co. Ltd., 182/194 St. John Street, E.C.I

FACTS not Fiction

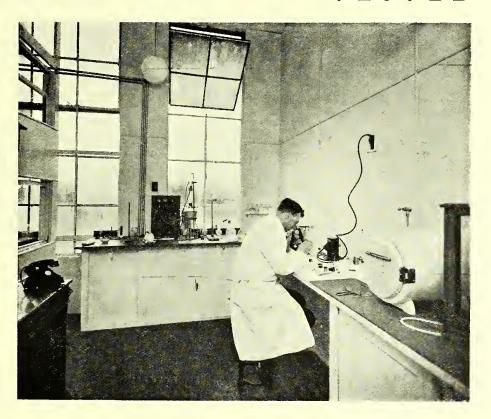


- •9,000,000 children in Great Britain
- Over 70 Mickey Mouse Clubs in Great Britain with membership of over 140,000
- Mickey Mouse Toothbrushes are the only toothbrushes made specially for children
- Mickey Mouse Toothbrushes are advertised direct to children in the Mickey Mouse Weekly read by one million children every week!

Obtainable from your usual Wholesaler.

MICKEY MOUSE ADDIS TOOTHBRUSHES WITH HERTFORD

LABORATORY TESTED



We illustrate an untouched photograph of the Maw Analytical Laboratories at New Barnet attached to the main manufacturing plant where Maw's Surgical Dressings are manufactured from selected materials by approved processes.

They are made to the most exacting standards, and are laboratory tested at each step. In specification they are deliberately planned to give you a safe margin against appropriate standards. A valuable safeguard so far as you are concerned.

That is one of the reasons why so many of our customers stock and sell Maw's Yellow Label Surgical Dressings. They sell under a name which has been recommended by the profession for many years, and which is known and trusted by the public.

The yellow packets and cartons are very well recognised too.

M A W O F L O N D O N

HERE'S SOUND SENSE AND SIMPLIFIED SELLING /

Eye-Matched Gye-Matched

A BRAND NEW AND EXCITING IDEA

FACE POWDER • ROUGE • LIPSTICK
EYE SHADOW: • MASCARA

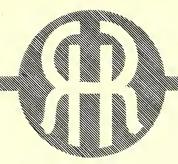
KEYED TO THE COLOUR OF THE EYES /

4 Types . . .

DRESDEN for BLUE eyes
PARISIAN for BROWN eyes
CONTINENTAL for HAZEL eyes
PATRICIAN for GREY eyes

The new Eye-matched Makeup will be introduced very shortly

RICHARD HUDNUT LIMITED



MAKEUP

RICHARD

4 Reasons why you should feature EYE-MATCHED MAKEUP...

- It provides the only reliable guide to correct makeup.
- It simplifies sales gives opportunity
 of selling items either singly or as a set,
 all matched to the colour of the eyes.
- It simplifies stock-keeping there are only four shades.
- NATIONAL ADVERTISING in the Sunday Pictorial, Sunday Graphic, Daily Mirror, Daily Sketch, Vogue, Picturegoer, Film Weekly, Film Pictorial, Woman and Beauty, Miss Modern, Woman's Fair, etc., will bring purchasers into your shop.

Eye-Matched Makeup means BUSINESS!

302, GRAY'S INN ROAD, W'C.

ESCALE (REGD.)

The ideal Travelling Spray



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- NO LEAKING
- NO SPILLING

CHROMIUM FITTINGS

EACH IN PLAIN LEATHER CASE

Retail 30/-

Usual Trade discounts

OF WHOLESALERS OR DIRECT FROM

MARCEL FRANCK & CO (LONDON) LTD

150 MOUNT PLEASANT, ALPERTON, MIDDX.



LET YOUR HOOK BE ALWAYS READY-

In the places where you least expect it there will be a fish. Sales stimulation is getting the casual "bite" which develops the regular customer. The wide range of exclusive, modern Spencer products offers the surest help to more business for the progressive retailer.

"MERMAID"
IS THE
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Link up your window with our NATIONAL ADVERTISING Size, Height $30\frac{3}{4}$ ins. Width 36 ,, Depth $7\frac{1}{2}$,,

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THE ALL-IN-ONE TONIC HAIR DRESSING

SUPPLIES
OBTAINABLE
FROM ALL THE
PRINCIPAL
WHOLESALERS
THROUGHOUT
THE COUNTRY
or direct from:

Feature this
NATIONALLY ADVERTISED
line, showing upwards of

60°/ PROFIT on cost

JULES FRÈRES L'

WALWORTH ROAD, LONDON, S.E.17

'Phone: Rodney 4171

The Latest DIXOR Line

DIXODOR The DIXOR Deodorant

Checks excessive perspiration and prevents its offensive odour. Harmless to the clothing

Over 10,000 Samples

have been sent out and our Advertising continues. Be ready for the resulting sales.

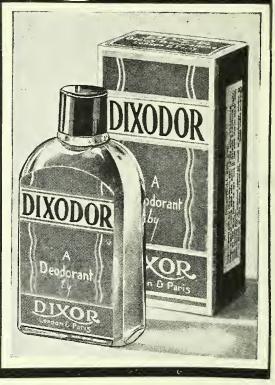
Order Dixodor from your wholesaler and send a p.c. to Dixor Ltd. for the Counter Display Stand.

PRICES P.A.T.A.

Retail, 1/= bottle

Wholesale, 8/- dozen

DIXOR LT MORTLAKE, S.W.14





Tablet

WATCH SALES SOAR!
WATCH YOUR STOCKS!

New National Advertising Campaign to consolidate the success of MORNING PRIDE

"Morning Pride" has taken premier place in the shaving cream market. First in public favour "Morning Pride" is second to none in rapidly increasing sales.

Look to your stocks and be sure of your share of profits from this new wonder shaving cream.

MORNING PRIDE

THE RAZOR READY BRUSHLESS SHAVING CREAM
PRODUCT OF FAIRY DYES LTD., PHARMACEUTICAL DEPT.
For particulars of attractive Initial Order terms write

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Preparation for the Preliminary Scientific and Qualifying Examinations of the Pharmaceutical Society of Great Britain

AUTUMN SESSION STARTS ON OCTOBER 5th, 1936



assisted by-

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PHARMACY



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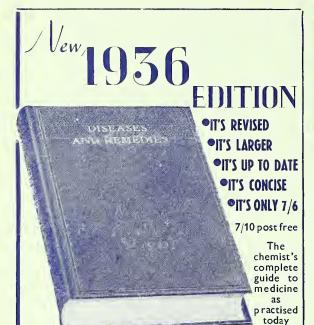
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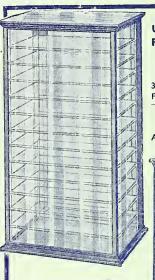
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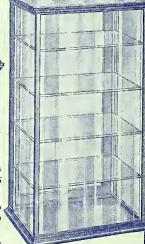
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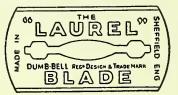




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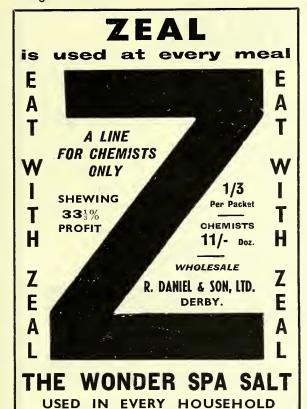
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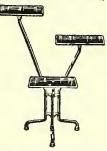
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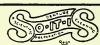
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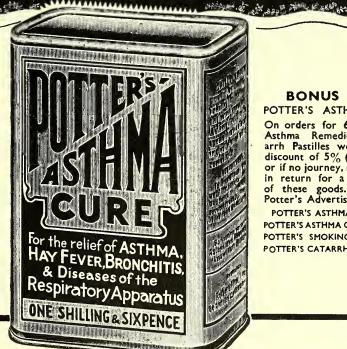
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News of the Week

Import Restrictions in Italy

The "Gazetta Ufficiale" (Rome) of June 27 contains a decree, dated June 24 and effective on publication, which adds the following to the list of goods the import of which into Italy is subject to licence issued by the Ministry of Finance:—

Gum-resins and balsams; essential oils and essences; terpenes of essential oils; ethers for liqueurs and perfumery; synthetic perfumes and constituents of essences not specified; perfumery; soap; acids; sodium, potassium and calcium; caustic potash; caustic soda; calcined and caustic magnesia; oxides; carbonates; metallic bromides; metallic iodides; nitrate of potassium; sulphate of soda; cyanides of potassium and sodium; acids; ethyl, methyl, methylene and similar bromides and iodides; colours not specified; lacs of aniline and other colouring matters.

Import Restrictions in Greece

By a Ministerial Decree, published in the "Message d'Athenes" on July 2, the import restrictions in force in Greece up to June 30 have been amended, the modification being effective until December 31, 1936. Boric and oleic acids; tannic acid or tannin; citric; oxalic; acetic (pyroligneous acid and lactic acid), picric and tartaric acids; caustic potash; sulphuric, sulphurous, and hyposulphurous salts; sulphate of iron and ordinary sulphate of zinc; sulphate of ammonia; sulphites, bisulphites and hydrosulphites generally; hyposulphite of sodium; potassium sulphide;

sodium bisulphite; aluminium sulphate and alums generally including chrome alum; nitric and nitrous salts; chloric and chlorous salts; ethers and alcohols (with the exception of oil of compressed grape husks, which remain in List "H"); peroxides of sodium and barium; borax; ammonia, liquid; formaldehyde; naphthalene; binitronaphthaline; nitrobenzol, benzol, aniline oil and salts; lysoform, lysol; iodine, bromine and their salts; acetate of lime; wine lees and tartrate of lime; condensed gases, such as oxygen, sulphuric acid, carbonic acid, ammonia, etc.; are transferred to List "B" (goods which may be imported in full exchange for Greek products; in partial exchange agreement; or freely from countries with which Greece has an active balance of trade). Dyewoods, in chips or powder, such as logwood, red wood, yellow wood; cochineal; carmine; henna; turmeric; and all other vegetable or animal colours are transferred to List "C" (goods which may be imported from any country and of which the import is subject to quantitative limitation). A reduction of 20 per cent. in the import quotas of certain goods in List "C" has been enforced, including sulphuric, nitric and hydrochloric acids; solid or liquid silicates of soda and potash; peroxide of hydrogen; chemical fertilisers [as described]; essential oils of roses, neroli, rosemary, Aurantiaceae, eucalyptus; sandal, cedar and others; and prepared mineral colours. Sulphur, sulphate of copper and preparations containing copper are now listed among goods for the import of which into Greece a special permit is required.

Colonial Tariffs

Amending Leaflet No. 3 of "Customs Tariffs of the Colonial Empire (Part II—Eastern, Mediterranean and Pacific)" has been issued by the Colonial Office (H.M. Stationery Office, 6d.). The principal provisions affecting the drug trade are as follows:—MAURITIUS: Optical glass and optical elements, general tariff 22 per cent.; British preferential tariff, 11 per cent. North Borneo: Aerated waters, tariff 25c. per gallon; soap, tariff 20 per cent. ad valorem, or \$2 per pikul, whichever is the greater; coconut oil, 10c. per kati. Cyprus: Exemptions, atebrin and plasmoquine. Palestine: Tariffs, essential oils, 12 per cent. ad valorem; perfumery, 25 per cent. ad valorem; exemption, sodium sulphate. Fiji: British insecticides for agricultural uses; tree washes; powdered pyrethrum flowers or Dalmatian powders admitted free.

British Standards Institution

The British Standards Institution, 28 Victoria Street, London, S.W.I, has issued a revised British standard specification for clinical maximum thermometers (B.S.S. 691-1936, 2s. 2d. post free). It has been the general practice for many years to manufacture six main varieties of clinical thermometer: three of these have round stems and three have stems of "lensfront" section, thus providing a magnified image of the necessarily fine mercury column. The lens-front pattern has been standardised in this specification. The three subdivisions of both the round and lens-front patterns are distinguished by variatious in the size of bulb, the smallest being commonly known as "½ minute" and the larger sizes "I minute" and "2 minute." Experience shows that this time is very variable, being affected by the physical condition of the patient, the skill with which the thermometer is placed in position, the initial temperature of the thermometer and other factors. The times which are marked on clinical thermometers can, therefore, be extremely misleading: in some circumstances a "½ minute" thermometer may require well over a minute in which to register correctly. For this reason no time indication is marked on British standard clinical thermometers. The size of bulb which has been standardised is that which is generally known as the "½ minute" type, and the thermometer will therefore compare favourably in rapidity of action with any other normal type of clinical thermometer. The standards in the specification are dealt with under several headings: —Type, stem, bulb, overall length, range dividing and figuring, permanence of pigment, constructional details, inscriptions.

A British standard specification has been issued for meteorological thermometers (maximum, minimum and ordinary), sheathed type. The temperature ranges covered make the thermometers suitable for use in the British Isles and many of the Dominions and Crown Colonies. They are not suitable, however, for use in countries bordering on Polar regions. Copies of this specification (No. 692-1936) may be obtained from the Publications Department, British Standards Institution, 28 Victoria Street, London, S.W.I, price 2s. 2d. post free.

A British standard specification has been issued for floating dairy thermometers; this is the first of the standards in course of preparation by the dairy standards section of the chemical division. The four thermometers described in the specification are intended for use in dairies or elsewhere when a floating type of thermometer is necessary. Copies of this specification (No. 695-1936) may be obtained from the British Standards Institution, Publications Department, 28 Victoria Street, London, S.W.1, price 28. 2d. post free.

The International Commission is to meet in Lucerne on August 17, 18 and 20, and will have before it the new set of draft methods relating to the analysis of soaps. A preliminary examination of the draft methods by British chemists has shown that they are not wholly acceptable, and will require important revision to render them suitable to British interests. Steps are being taken to prepare recommendations in the form of alternatives where these are felt to be necessary, and revisions and modifications where the basis of the methods has appeared to be acceptable. It will not be possible to have these proposals ready for this year's meetings of the Commission.

Inquests

A verdict of "Death from misadventure" was returned at a Wallasey inquest, on August 10, on the body of Maureen W. Warren, aged twenty-one months. The mother said that about eighteen months ago she purchased a box of a dozen 5-gr. quinine tablets from the Brighton Street shop of Kennedy & Evans, chemists. While disinfecting the house she put an ornament containing the box of tablets on a sideboard. Some time after the child was found with the box, from which nine tablets were missing. Mr. Robert A. Evans, chemist and druggist, said the tablets were sold by a former assistant. There was no restriction on the sale of quinine, which could be bought at stores or at herbalists' shops. The tablets were sugarcoated. The house surgeon at the Victoria Central Hospital stated that the child died from asphyxiation following quinine poisoning.

Manchester and District

The annual competition for the Kerfoot trophy of the Manchester and District Pharmacists' Golfing Society was

played at Hopwood Park on August 5, about a score of members taking part. The day was gloriously fine, one of the outstanding summerlike days this year. Although the course is one of the most difficult in the North, there were some excellent scores. After high tea the captain, Councillor F. D Gee, said he was sorry Mr. Franklin, the president, had been unable to join them. The secretary, Mr. Phillipson, won the trophy with a score of 77. Messrs. E. S. Bury and R. Demaine tied for the second prize with 78.

For the recreation of employees of Stotherts, Ltd., manufacturing chemists, Atherton, Lancashire, Mrs. M. H. Stothert opened, on August 1, a new bowling green in the grounds of the company's welfare society. There was a good attendance, and the opening



Photo] [Cleworth Mr. W. E. PHILLIPSON

attendance, and the opening game was played between Mr. M. H. Stothert and Mr. A. J. Mercery, J.P. (directors), the former proving the winner. In a bowling handicap which followed, Mr. Stothert was beaten in the final by Mr. T. Bloy.

Sheffield

A golf meeting has been arranged for members of the Sheffield Pharmacy Club at the Sickleholme Golf Club, Bamford, Derbyshire, on August 20. The meeting place is at George Squire, Ltd., chemists, King Street, Sheffield, at 2 p.m., and arrangements have been made to convey members to the course. Further particulars may be obtained from Mr. C. S. Cross, the hon. Secretary (Beauchief 71264).

Arrangements are being made to hold the examination for the Stiles prize (and other prizes) awarded annually to the best students in this area. The paper will be set on knowledge required for the Preliminary Scientific examination. It is hoped that the completion of the details will make it possible to hold the examination in early September, simultaneously in Barusley and Sheffield. Particulars will be available later from the secretary (Mr. W. Wood).

Miscellaneous

Income-tax codification.—The Federation of British Industries has submitted to the Chancellor of the Exchequer a report upon the draft Bill prepared by the Income-Tax Codification Committee and expressing its admiration of the thoroughness and ingenuity of the Codification Committee.

LISTED SELLERS.—At a meeting of Yarmouth Town Council on August 11 the watch committee stated that their inspector had estimated the number of shops coming within the provisions of Part II of the Pharmacy and Poisons Act, 1933, as six. Up to the present, however, forty-two applications for registration had been received and granted. It was decided to request the Pharmaceutical Society to carry out the work of inspection on behalf of the Council.

Irish Notes

Pharmaceutical Exhibits at the Dublin Horse Show

Irish pharmaceutical and allied industries were well to the fore at the industrial exhibition run in connexion with the Dublin Horse Show. On entering the Main Hall at Ballsbridge, one of the first stands to attract attention was that of Hamilton, Long & Co., Ltd., which carried a choice array of cosmetics and high-class utility articles. Further down the Hall the stand of James Crean & Son was one of the most artistic in the building, and it included a display of the entire range of Dromona toilet preparations and perfumes. In the Saorstat Industries Hall Messrs. Crean had also a second stand displaying their other lines. Irish Pharmaceuticals, Ltd., as usual, were prominent in this Hall with an attractive stand in which the Dawn series of cosmetics and perfumes were well in evidence. A newcomer to the pharmacy group at the Show was the Island Bawn Laboratories, Nenagh, who put up a wellarranged exhibit of their Ilabor tooth-paste and cosmetic lines. Other prominent exhibitors at the Show of interest to the pharmacist were Day, Son & Hewitt (Ireland), Ltd., Kolynos Preparations, Irish Beauty Preparations, Dixon & Co., Imperial Chemical Industries, Ltd., and the Irish Glass Bottle Co. (Pictures on p. 173)

Scottish Notes

Brevities

A voluntary health insurance scheme, in which all local medical practitioners are taking part, and in which families pay weekly subscriptions, has come into operation in Peterhead.

The concluding round in the competition for the Edinburgh Chemists' Trophy, for members with handicaps of 15 and over, was played over Ingliston course on July 22, with the following result: (1) J. J. E. Black, 71; (2) R. S. Mathison, 74; (3) A. M. Edmonds, 76. Second class: (1) J. M. Foote, 79. The result of the whole competition was a tie between R. S. Harvey (79 and 78) and A. M. Edmonds (81 and 76), 157.

Aberdeen

An optical branch has been opened by the drug department of the Northern Co-operative Society, Ltd., at 35 Rosemount Viaduct, Aberdeen.

At Aberdeen, on August 6, a farmer who had placed or caused to be placed a quantity of corn, which had been rendered poisonous by the addition of strychnine, in a field partly sown with corn was admonished by Sheriff Laing.

Topical Reflections

By Xrayser

Your Editorial Article

on "Nutrition and Disease" (C. & D., August 8, p. 157) may be read with profit; and it occurs to me that the letter by "Continental" on p. 165 forms a kind of foot-note to it. Readers of medical journals must be struck with the increased attention that is being paid by specialists to foods of the vitamin type, or, perhaps it is more correct to say, foods that contain known and definite values of vitamins. In spite of the increase of knowledge in so many directions, that of dietetics has been often neglected by both doctor and patient; in addition our cooks and gastronomic experts are often woefully ignorant of the food values of the goods they handle, while many of the housewives of the lower and middle classes have ideas on the subject that do not go beyond something to eat that is got out of a tin, or that is prepared for use in a frying-pan. With fresh foods, such as fruits, vegetables and meats, the pharmacist has little commercial interest, except that he should know whether they contain vitamins, the kind or kinds of vitamin, and how best they should be cooked to conserve their values. Of the many articles on the border-line between medicines and foods he should have an intimate knowledge; and I suggest that if he cultivates such a personal service to his customers that store competition cannot affect him, he should specialise as an adviser upon vitamin foods. It is a deplorable fact that this business has got, or is getting, into the hands of all kinds of traders who are not so well equipped, mentally, for advising on the subject as the pharma-If an example of this statement is required, it is to be found in the way in which diabetic foods are sold by traders other than pharmacists. He sells insulin to diabetic patients; why should he not go one better and supply them with their special foods as well?

Share

with the Council of the Pharmaceutical Society the concern expressed at the meeting on August 5 at the increase in the number of failures in botany in the recent Preliminary Scientific examinations in London and Edinburgh. It is unfortunate that the Council went into committee to discuss this question; but from the official report of this discussion supplied at the close of the meeting I gather that various reasons were given for the state of affairs, and that probably all contained some truth. I believe one reason not mentioned in the discussion is that the facilities for gaining experience in field work, a most important section, are not anything like as satisfactory as they once were, and that many candidates appear at the examination knowing little of systematic botany. Students of a decade or two ago were accustomed to take long rambles round the

country and come home laden with specimens of great importance to them in their study of botany; reports of such rambles now appear to emanate from Edinburgh alone. There are at least two reasons why such excursions are not made so frequently to-day. One is that owing to the increase of motor cars and motor cycles, the habit of taking long country rambles is not so popular as it once was; the other is that many of our indigenous wild flowers are getting scarcer and scarcer because of the inroads of the builder and the arterial road-maker into their habitats. As a student I was able to find Conium maculatum, Hyoscyamus niger and many other plants within a mile of my home; in the same spots I never see a single specimen now. It would be interesting to know in what sections of botany the candidates fail; this information may yet come to hand. Incidentally, the study of botany is a particularly fine training in the habit of observation; for that alone I hope attention will be paid to the report of the Council. I am not forgetting that specimens of wild flowers are always supplied in the schools; but it is quite a different matter to find one's own plants from having them supplied, and then not always in a fresh state.

I Am Reading

an interesting book entitled "A Quaker Journal, 1804-1861," being the diary and reminiscences of a certain William Lucas of Hitchin. The book is noteworthy to pharmacists, and has a bearing on my recent paragraph on assistants and their salaries, inasmuch as the writer was apprenticed to Frederick Smith, a well-known chemist in the Haymarket. Among many details of the business, the description of the life of the apprentices and assistants is written with a simplicity and a stark realism revealing how far we have travelled since those days. There were five in the shop, we learn, in addition to the "master" (who always wore his apron). The five "lived in a most squalid manner. . . . Food was coarse as workhouse diet, and we were never allowed to go out in the evening. We slept in the attic, in dirty beds . . . and one of the apprentices had for months to sleep under the counter, to take down and put up the shutters, and to carry large parcels and hampers on his head like a regular porter with a knot. We were encouraged to take walks in Kensington Gardens before breakfast, but never allowed to go out at other times, and as the shop was kept open till eleven at night there was not much time for recreation. From nine we were allowed to read, and we always had a book at meals." Readers of the literature of that period will know that the life of the assistant of either sex who "lived in" was of a kind that often could be better imagined than described.

New Companies and Company News

P.C. means Private Company and R.O. Registered Office

R. C. Marshall, Ltd. (P.C.).—Capital £3,000. Objects: To acquire the business of chemists and druggists carried on as R. C. Marshall & Co. Office: Market Street, Dungannon, co. Tyrone.

D. Jackson & Sons, Ltd. (P.C.).—Capital £700. Objects: To carry on the business of chemists, druggists, herbalists, patent medicine vendors, etc. R.O.: 72 Holyhead Road, Wednesbury, Staffs.

Dispel, Ltd. (P.C.).—Capital £500. Objects: To carry on the business of consulting, analytical, manufacturing, pharmaceutical and general chemists, herbalists and seedsmen, etc. Solicitor: Vincent Waring, 32 Talbot Road, Blackpool.

ERNEST HYATT, LTD. (P.C.).—Capital £5,000. Objects: To carry on the business of chemists, clinical analysts, cosmeticians, dealers in photographic apparatus and materials, etc. The subscribers (each with one share) are: Eric Phillips, 16 Morella Road, Wandsworth Common, London, S.W.12, and Leonard W. Rood, Holnchurch.

Delroy Perfumery Co., Ltd. (P.C.).—Capital £100. Objects: To carry on the business of manufacturing and wholesale chemists, manufacturers, importers and exporters of, agents for and wholesalers and retailers of all kinds of essential oils, isolates, perfumery, etc. R.O.: Rooms 39/4r Swan House, 133 Oxford Street, London, W.1.

Virginia's Hollywood Preparations (1936), Ltd. (P.C.).—Capital £3,000. Objects: To acquire the business of manufacturers of and dealers in face powders and toilet preparations carried on by a company of similar name incorporated in 1934 at 181 Gresham Road, Slough. Solicitors: Bulcraig & Davis, 12 Norfolk Street, London, W.C.2.

SOUTH AFRICAN DRUGGISTS, LTD.—An interim dividend of 6 per cent., less tax, has been declared on the company's ordinary shares.

The Automatic Savings Association, Ltd., was registered on August 8 as a "private" company, with a nominal capital of £100. The objects are to adopt an agreement with Ernest Lambert, Albert L. Josephs and Frederick W. Radford, all of 60 Strand, London, W.C.2, and to carry into effect a scheme for, inter alia, the establishment of an association of retail traders, and to set up, form, carry on and subsidise such association, intended to be known as "The Retailers' Cooperative Association." The purpose of the said Association will be, inter alia, to combat on behalf of each member the inroads which co-operative societies and their trading are making on his business . . . Solicitors: A. E. Hamlin, Brown & Co., 12 Soho Square, W.1.

Macleans, Ltd., was held at the registered offices, Brentford, on August 6, the Rt. Hon. L. S. Amery presiding. The net profit for the year to June 30 last amounted to £182,345 (C. & D., August 1, p. 122). Macleans Tooth Paste continued to make satisfactory progress, and sales of Macleans Solid Dentifrice had grown steadily. Maclean Brand Stomach Powder had made substantial progress during the past year, and public demand was still increasing. The new Mac Brand Antiseptic Throat Sweets, containing amyl-oxy-toluene, had already a considerable following. Advertising appropriations for the ensuing year were on an even higher scale than previously. The report and accounts were unanimously adopted and a final dividend of 5 per cent. on the ordinary shares was declared.

Private Arrangement

W. Boxhall, chemist, lately trading as Boxhalls, 37-38 Coventry Street, London, W.I. At a meeting of the creditors the statement of affairs showed ranking liabilities of £1,774, of which £1,101 was due to the trade, and £673 to a cash creditor. The assets comprised cash in hand £744, and book debts £4, making a total of £748. The debtor, it was stated, commenced trading in November 1933, when he ac-

quired empty premises at the above address. He had little or no capital of his own. Last June the debtor entered into an agreement to sell the business. It was intimated that if the matter was dealt with privately the cash creditor would withdraw his claim. It was decided to accept a composition of 13s. in the £, payable within fourteen days. The following are among the creditors:—Butler & Crispe, £290; A. Simpson, £195; Evans Sons Lescher & Webb, Ltd., £67; J. & E. Atkinson, Ltd., £46; Coty (England), Ltd., £44; Gustav Boehm, Ltd., £33; W. Toogood, Ltd., £26; Harriet Hubbard Ayer, £26; Johnson & Johnson, Ltd., £25; Worth Perfumes, £23; J. C. Gambles, Ltd., £22; Bourjois, Ltd., £20; S. Maw, Son & Sons, Ltd., £17; Thos. Christy & Co., Ltd., £16; Coronet Camera Co., Ltd., £14; Meggeson & Co., Ltd., £12; Ilford, Ltd., £11.

Bankruptcy Reports

Re John Sinclair Ellis, wholesale chemist and perfumer, 84-86 Regent Street, London, W.I. The statutory first meeting of creditors was held on August 5. According to the debtor's statements in preliminary examination, he served in the Army during the war. In April 1935, with £100 capital, he began business as a manufacturing chemist at Imperial House as the Regent Perfumery Co., being registered as the sole proprietor. After discussing matters with his chemist, Mr. de Marigny, it was decided to form the business into a limited company, and in October 1935 De Marigny Cosmetiques, Ltd., was registered. The debtor was to receive £1,000 cash and £1,000 in shares, 500 of which he transferred to Mr. de Marigny in consideration for certain formulas handed over by the latter to the company for exploitation. They were both appointed directors of the company at a weekly fee of £6. The company took over the debtor's business as from January 1, 1936. Mr. de Marigny's father introduced a Paris firm who subscribed £1,000 on the security of a first debenture covering the assets of the company. The business developed, but was unable to discharge the consideration to the vendors, to which fact the debtor attributes his present position, another factor being heavy interest charges. He roughly estimates his liabilities at £1,250. In the absence of tangible assets, the case was left with the official receiver to be wound up.

Re Victor Henri René Desvaux de Marigny, chemist and perfumer, 351 Fulham Palace Road, London, S.W.6, and 84-86 Regent Street, W.I. The statutory first meeting of creditors was held on August 6. According to the debtor's statements in preliminary examination, he formerly carried on business at 351 Fulham Palace Road in partnership with the late Mr. S. Liston, and also traded at that address as a wholesale chemist as R. Desvaux & Co. He was apprenticed to Mr. Liston, and in 1930 purchased a one-fourth share of the business for £500. On the death of Mr. Liston in 1934 the debtor took over that gentleman's share from the executors and carried on the business until April 1936. In 1934, as a hobby, he started a small wholesale chemist's business at 351 Fulham Palace Road in the name of R. Desvaux, later changed to R. Desvaux & Co. That business was transferred to 413 Fulham Palace Road. In 1936 the De Marigny Cosmetiques, Ltd., opened a branch there and installed him as superintendent. In June 1935 he was introduced to Mr. J. S. Ellis, the proprietor of the Regent Perfumery Co., and on the transfer of that business to De Marigny Cosmetiques, Ltd., in October 1935, he received 50 per cent. of the share capital of £1,000 in consideration for various formulas. The debtor owes about £6,000 against assets of doubtful value. The case was left in the hands of the official receiver.

Gazette

Bankruptcy Acts

RECEIVING ORDERS AND ADJUDICATIONS

SWAIN, G. S., 25 London Road, Peterborough, pharmacist.WALTON, F. W., 29 Alexandra Road, Penn, Wolverhampton, chemist's manager.

Stock Exchange Prices

£1 shares unless otherwise stated	Dec. 31,	June 30 1936	July 31, 1936
	s. d.	s. d.	s. d.
Allen & Hanburys, 7% Prefd, Ord	23 9	24 0	s. d. 26 3
Allen & Hanburys, 7% Prefd. Ord Amalg. Dental Co., 8% Prefd. Ord	26 3	27 6	27 O
	9 0	17 6	16 9 19 9
Aspro, Ltd	23 6	27 0	19 9 26 6
Ayrton, Saunders & Co., 7½% Pref. Beechams Pills, Deferred 5s. shares	39 9	54 9	54 9
Benger's Food, Ord	40 6 I 9	40 0 7 0	40 0
Benzol & By-Products cum. part. Pref Berger (Lewis) & Sons, Ord	66 3	68 6	$\frac{5}{71} \frac{1\frac{1}{2}}{3}$
Rlundell Spence & Co	18 o	18, 9	18 9
Boake (A.), Roberts & Co., 5% Pref	20 0 49 6	19 . 6	21 3
Boots Pure Drug, Ord. 5s. shares Boots Pure Drug, 7% "A" Prefd. Ord	32 0	54 3 33 0	53 6 33 3
Boots Cash Chemists (S.), 6% "A" Pref.	28 IO2	29 3	29 3
Borax Consold., Did. Ord	20 9 27 3	28 6 27 9	33 6 27 6
Bovril, Ord	18 11	2I 0	27 6 19 6
British Industrial Plastics (formerly British	,	1	
Cyanides), Ord, 2s. shares	3 1½ 18 0	3 4½ 19 6	4 0
British Drug Houses, The, Ord British Glues & Chemicals, 4s. Ord	7 7 2	9 0	$\frac{19}{7} \frac{7\frac{1}{2}}{4\frac{1}{2}}$
British Oil and Cake Mills, Prefd. Ord	48 9	49 3	49 6
British Oxygen, Ord	113 9 3 0	105 7½ 3 6	118 9 3 9
British Photo. Indus., 6% Cum. Pref Burt, Boulton & Haywood, Ord	19 6	21 6	3 9 21 3
Bush (W. J.) & Co., 5% Pref. £5 Callard, Stewart & Watt, Ord	108 9	112 6	110 0
Callard, Stewart & Watt, Ord Cooper, McDougall & Robertson, Ord	3 3 38 9	5 6 31 6	5 3 37 6
Crosfield (Joseph) & Sons, 61% Pref	3 1 9	31 3	31 0
Dubarry Perfumery, Ord. is	5 10½ 26 6	3 0 26 3	3 3 26 3
Eno Propriet'y, Ord. 5s Evans Sons Lescher & Webb, Ord. 6s. 8d.	9 6	$9 4\frac{1}{2}$	26 3 9 0
Evans Sons Lescher & Webb, Ord. 6s. 8d.			_
shares, ,, 6% cum. part. Pref.	4 3 7 6	5 6	5 6 7 6
Field (J. C. & J.), Ord	25 0	27 6	27 6
710/ Com Deef	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3 3 26 6	$\frac{3}{27}$ $\frac{1\frac{1}{2}}{4\frac{1}{2}}$
Genatosan, Ltd., 1s	7 6	6 10½	6 6
Gossage (William), 6½% Pref	29 6	30 O	30 0 11 6
Greeff-Chemical H'dings, Cum. Pref. 10s Ord. 5s		9 1 1/2	9 13
Griffiths Hughes (Kruschen) Ord	57 6	55 9	52 0
Grout & Co., Ord Hodders, Ord. 1s	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	20 6 I 0	2I O I O
Ilford, Ltd., Ord	26 3	33 0	32 6
	26 3 33 9	26 0 34 6	26 9 34 9
", Ord	37 0	38 101	3 9 6
Defd. 10s	9 0 8 6	96	9 7½ 8 9
Intern. Sponge Importers, 6% Pref Kent (G. B.) & Sons, 5½% Pref	3 0	2 6	8 9 2 0
Knight (John), 25% Prefd. Ord	101 3		103 9
Kent (G. B.) & Sons, 5\frac{1}{2}\% Pref Knight (John), 25\% Prefd. Ord Laporte (B.) & Co., Ltd., Ord Lever Bros., Ltd., 7\% Pref	32 3	12I 3 32	120 O 33 O
,, 0 % Fiel	33 6	34 6	34 3
1 avis & Burrous Ord	77 6	78 3	79 3
rewis & Burrows, Old 6% Pref	21 3	25 6	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Liebig's Ext. of Meat, Ord. £5	£14½	£164	£16\frac{5}{8}
Macleans 6% Red. Pref Mellin's Food, 6% Pref	2I 3 I 0	22 3 5 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Nathan, J. (Glaxo), 7 % Pref 8 % Prefd. 10s	24 6	25 0	24 9
	15 O 5 O	12 9 5 4½	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Pears (A. & F.), 5% Deb. £100 Reckitt & Sons, Ord	£112	£110	£108½
	115 0	114 6	114 3
Sangers, Ord. 58	44 6 23 3	43 3	43 b 27 6
Sanitas," The Co., 9% Pref	32 6	34 3	33 9
Sanitas Trust, 10% partic. Pref Smith (Stephen) & Co., Ord. 5s	30 0 12 9	30 0 11 6	30 3 II 7½
Spratt's Patent, Ord.	76 o	70 0	69 3
Stevenson & Howell, 6½% Cum. Pref United Glass Bottle Man., Ord	26 3	26 3	25 0
Veno Drug Co., 8% Pref	44 9 27 0	43 3 26 3	49 3 28 0
Virol, Ltd., Ord	28 9	26 3	29 6
White (A. J.), Ltd., Ord. 10s	25 6 21 0	25 6 23 1½	25 0
White (Timothy) & Taylors, 7½% Pref	30 9	3 1 6	30 6
Woodlands Chemists, Ord. 5s.	22 6	29 3 I 0	29 9 I I ¹ / ₂
Wright, Layman & Umney (1932), 7% cum.			1 12
Pref	22 6	23 9	23 9

Insurance Act Dispensing

Record of matters concerning Chemists' interests in the National Health Insurance Acts.

ENGLAND AND WALES

Essex.—The annual report of the county Pharmaceutical Committee gives the following statistics for the two previous years:—

		1024	1025
Manual Control		1934	1935
		1,706,655	1,807,723
Number of persons		378,631	390,153
Total cost, including vaccine	es,		
serums and insulin	٠	£60,386 9 II	£64,311 10 5
Average cost per prescription		8·52d.	8·57d.
		38·31d.	39·6d.
Insulin		£2.611 0 3	£2 205 T5 0

Comparative figures for Essex and adjacent districts for 1935 are:—

Essex County			390,153	1,807,723	4.64	39.6
West Ham			119,107	594,454	4.99	38.38
		• •	59,054	254,138	4.3	34.54
Southend-on-S	Sea .	٠.	40,666	192,163	4.73	41.40
London			1,765,402	8,561,492	4.85	37:93
Middlesex			677,054	2,788,176	4.10	34.20
Surrey			329,181	1,184,390	3 · 60	31.10
Kent			393,302	1,622,464	4.10	35.20

The following list of articles and preparations which are not allowed as part of medical benefit has been supplied by chemists who have received payment for them:—Bovril, charcoal biscuits, Lactic Oats, Marmite, Ovaltine, Roboleine, saccharin tablets, Sanatogen, Virol, animal wool, atomiser, batiste, bougies, capsicum wool, catgut, douche can, drainage tube with nozzle, elastic knee-caps, elastic anklets, elastic stockings, eye-douche, eye-rod, eyeshades, felt adhesive plaster, chiropodists' felt finger-stalls, glass funnel, hypodermic needles, hypodermic syringes, insufflator, kidney dish, metatarsal bandage, nasal douche, nebuliser, pneumonia jacket, rubber tubing, spirit lamp, syringes, sugar testing outfit, Tarfoam Shampoo, test-tubes, Thermogene Wool, trusses, vaccination pads, wood-wool, wrist strap. A letter from the Pharmaceutical Distribution Committee states:—

"There is the possibility that the demands on the fund may lessen during the remainder of the year, in which case, with the increased sum of money available this year, the fund may be solvent by the end of this year. It is remarkable there should be this increased demand on the drug fund at a time when unemployment is decreasing, and we cannot, therefore, be very optimistic about the adequacy of the drug fund for 1936, although it is unlikely there will be any serious deficit."

Lancashire.—Information placed before the Prescription Bureau showed that for the first quarter of this year, in the ten areas covered by the Bureau, there were 746,260 prescriptions, compared with 688,688 for the corresponding period lasyear. The respective costs of ingredients and dispensing were £11,175 and £13,741, compared with £10,080 and £12,740 last year. The total average cost per prescription was 8.01d. in 1936 and 7.95d. in 1935. The average total cost per insured person was 12.82d., against 11.78d. The highest average cost per insured person was at Blackburn—15.21d. Preston came next with 13.63d., and Westmorland had the lowest average with 10.07d. Barrow-in-Furness had the lowest cost (7.41d.), and the average cost per insured person in this town was only 12.61d.

Sheffield.— The Insurance Committee has adopted, subject to the approval of the Minister of Health, an amended drug testing scheme. The scheme recognises the interests of the medical practitioners in the accuracy of dispensing by their representation on the proposed Analysis Subcommittee, and the sending to the Panel Committee of copies of the reports, while the further investigation in cases in which it is deemed necessary is to be by the Pharmaceutical Service Subcommittee, instead of the Joint Services Subcommittee, as hitherto. The reports of the Pharmaceutical Service Subcommittee are submitted to the Insurance Committee, thus removing a grievance which had been felt by the chemists. The hope was expressed that the new scheme might eventually be adopted nationally.

Statutory Committee's First Case

The first inquiry under Section 7 of the Pharmacy and Poisons Act, 1933, into the conduct of a registered pharmacist was held by the Statutory Committee of the Pharmaceutical Society at 17 Bloomsbury Square, London, W.C.1, on August 6.

The chairman (Sir Ernley Blackwell), who sat with Messrs. T. Guthrie, A. R. Melhuish, E. T. Neathercote and E. Saville Peck, said at the outset of the proceedings that the Committee had no desire to lay down a general rule, but in the case, as the accused man would not be present, it was not in the interests of justice that his name should be published.

The secretary of the Society (Mr. H. N. Linstead) read the charge against the pharmacist, which was that while in control of premises at 118 High Road. South Woodford, on May 8 last, he was under the influence of alcohol, rendering him unfit to be on the Register. Mr. Linstead said the pharmacist had replied that he had been unable to get leave to attend the inquiry, and asked that his explanation and apologies should be tendered to the Committee.

Mr. A. C. Castle, who appeared on behalf of the Pharmaceutical Society, said that, according to the records of the Society, the chemist was aged about thirty-three, and qualified in December 1927. As far as could be ascertained, he had occupied positions in various parts of the country as a qualified chemist. At the time of the alleged offence he was employed by Broomes, Ltd., of 118 High Road, South Woodford, as manager of that branch shop. When visited by one of the directors of that company, he was found to be in a state of intoxication. A police inspector was sent for as well as a doctor, who came to conclusions as to his condition which they would tell the Committee. He was written to by the secretary of the Society for an explanation, and in reply said that on the morning he was suffering from abnormal pains in the stomach, and he took some bismuth. A customer came in and remarked upon how ill he looked, and went and purchased some brandy for him, which he took. He would have taken anything in order to have relief from the pain. He was, however, a total abstainer, and this brandy affected him in an unaccountable manner. Nothing alcoholic had passed his an unaccountable manner. Nothing alcoholic had passed his lips for many years, and this was a bitter and humiliating lesson. He begged, in those circumstances, that his livelihood should not be affected by one mistake. The doctor, added Mr. Castle, would tell the Committee that the accused man classed the idea of him being drunk as ridiculous, as he gave him to understand that he could take any amount of alcohol.

Evidence Given

The first witness was Mr. Harold Edward Sheaves, a director of the company, who said that the man entered their employ as a locum tenens about a fortnight before this incident; their permanent manager was absent on leave. When witness entered, the accused was sitting on a chair at the back of the shop in the dispensary. He had his head on his chest, and appeared to be in a comatose condition and unable to be in charge of the business. Witness realised he might have been ill and formed no definite view at that time. A police officer arrived and endeavoured to arouse the accused, and when he did so, he questioned the accused as to how he had got into that condition. He was unable to offer an explanation, and a doctor was sent for. During the conversation with the doctor, he heard the accused say he was subject to being taken ill because of a war wound, but from his own observation he was not able to say definitely that the accused was under the influence of drink.

Inspector William Smith, of Woodford, said he was called to the shop and saw the accused with his head sunk on his chest. His eyes were closed, and saliva was running from his lips; cigarette ash was over his coat. His breath smelt of alcohol, and witness had great difficulty in arousing him or getting any sense into him. Eventually he got him to his feet, and he then staggered over to a desk, took a fountain pen out, and commenced to write in a book. Witness asked him what he was doing, and he looked around in a very dazed state; witness saw he was writing in the prescription-book. He found that no prescription had been made up in the previous two days. He gave directions that a bottle of medicine that had been made up should be destroyed, although he was

assured it contained no drugs or poisons. The nearest doctor was sent for, and in the conversation that transpired he heard the accused refer to an incident when he was in the Navy during the war which caused him to have fits about that time of the year. Before the doctor arrived, he came to the conclusion that the accused was under the influence of drink.

Dr. Robert Dalrymple Henderson, of Woodford, said he was called to the shop at 6.25 p.m. by a police officer. He examined the accused to see if he was suffering from the effects of drugs and found no evidence of that. He was confused and his articulation was thick. He was in an aggressive mood and not amenable to the examination. He could not walk straight and his breath smelt of alcohol. He admitted he had been drinking, and said that during the war he boarded a German submarine with a boarding party, and a lieutenant had struck a pistol into his stomach and shot him. As the result of that he was now accustomed to taking alcohol from time to time, to relieve not only the pain but the recollection which was preying on his mind. He said that on this occasion he had been drinking gin, but that sometimes he had taken brandy. The accused said it was absurd to say he was drunk, by which witness inferred that he could stand a quantity of liquor. The accused was under the influence of drink, and there was no question of drugs. In reply to the chairman, the doctor said he did not examine the accused to see if he had a pistol wound, because apparently there was no dispute that the accused had been drinking.

The chairman pointed out to Mr. Castle that according to a police report, the accused was thirty-six years of age, and Mr. Castle said he could only go by the records of the Society, which placed his age at about thirty-three, and he did not know his date of birth.

After retiring for twenty minutes, the chairman said that the Committee had decided to postpone further consideration of the case for about six months. The date of the further hearing would be announced later, and the accused would have six weeks' notice.

Recent Wills

Mr. Frank Worsley Harsant, The Parade, Epsom, chemist and optician, who died on May 24, left estate of gross value £10,186, with net personalty £2,053.

Mr. William Leybourne Million, 168 Fleet Road, Fleet, Hants, chemist and druggist, who died on October 25 last, aged fifty-two, left estate gross value £4,960, with net personalty £1,318.

Mr. Frederick Thomas Munton, Rosslyn, Swanlow Lane, Winsford, Cheshire, chemist and druggist, who died on January 5 last, left estate gross value £4,187, with net personalty £2,552.

Mr. Arthur Lloyd Davies, The Firs, Heathside Crest, Woking, chemist and druggist, who died on January 14 last, aged sixty, left estate gross value £5,763, with net personalty £3,265.

Mr. William Henry Clause, New End Square, Hampstead, London, N.W., formerly of Clayton, Manchester, chemical manufacturer, who died at Wiesbaden on April 17, left £3,227 gross, with net personalty £3,219.

MR. James Walter Tilley, Leigham Court Road, Streatham, London, S.W., late joint managing director of Stevenson & Howell, Ltd., manufacturing chemists, who died on June 22 last, left estate of the gross value of £42,619, with net personalty £40,976.

MR. JAMES WILLIAM KIPPING, West Mount, Knottingley, Yorks, a director of Stainsby & Lyon, Ltd., manufacturing chemists, and for some years a member of the Knottingley Urban Council, who died on January 14 last, aged sixty, left property of the gross value of £18,84/, with net personalty £18,281.

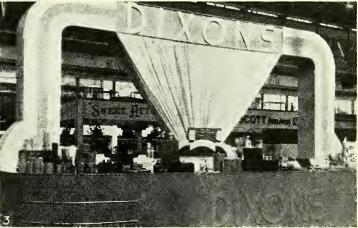


At the DUBLIN Horse Show

PHARMACEUTICAL EXHIBITS

- Dromona Beauty Preparations (James Crean & Son, Ltd.).
 Island-Bawn Laboratories, Nenagh. 3. Dixon & Co.
 Hamilton, Long & Co., Ltd. 5. Irish Pharmaceuticals, Ltd. 6. James Crean & Son, Ltd.











How I Studied

Statements by successful candidates for the Jacob Bell and Leverhulme Scholarships

By N. Senior, M.P.S. (Bell Scholar)



Mr. N. SENIOR

HE Bell Scholarship, founded in memory of the late Mr. Jacob Bell, one of the most distinguished pharmacists of the last century and a person of whom pharmacy is proud, is a prize worthy of the attention of any student who has taken his Preliminary Scientific examination and can spare twelve months for private study. The syllabus includes pharmacy, chemistry, botany, essay-writing and a language (French, German, or Latin).

In the first place, when I commenced to study, I found it essential to draw up a weekly time-table. The sum-

total of available hours per week was calculated and divided up as thought necessary between the five subjects. In deciding how many hours per week are necessary it is well to bear in mind that the total number of marks obtained in the examination is almost directly proportional to the number of leisure hours sacrificed to study. In my particular case I allotted one or two hours per week to essay-writing, about four hours to chemistry and four to botany. The rest of the week I divided up between pharmacy and the language.

In essay-writing, a moment's reflection shows that three things will be looked for in every essay—ideas, arrangement, wording. Ideas on pharmacy, its merits and demerits, its future and its aspects form subject-matter for many essays. I found it advisable to read widely in pharmaceutical periodicals and to discuss pharmacy with many pharmacists and students. To set about writing an essay I found the following plan to work very well:—Write down all ideas as soon as they enter the head. Classify and arrange them into paragraphs. In writing the essay begin each paragraph with a fresh idea—one that will arouse the interest of the examiner. Then modify and expand the idea. Clear, concise wording is preferable to classical phraseology.

Chemistry, in my opinion, called for a revision of the Part One syllabus—with a study of the commoner pharmacent cal chemicals of simple composition—but elementary inorganic chemistry claimed most of my attention. The botany syllabus, too, is based on elementary principles, which should not be neglected. The language demands a thorough knowledge of grammar and a fairly wide vocabulary. To have a tutor in this subject is a great advantage.

Most of my time, however, was devoted to pharmacy. I found it necessary to study books on pharmaceutics, Latin, forensic pharmacy and dispensing. As these subjects occur in the Qualifying examinations, the time is not wasted—even if one is unsuccessful. (The same remark applies to chemistry and botany.) How much of the Pharmacopæia are we expected to know? This gave me a little trouble. However, I decided that questions on the preparation of galenicals involving the need of manipulative skill, the observance of precautions laid down by the Pharmacopæia or those in which chemical reaction took place—I am referring to things like sacchar tod carbonate of iron, oleated mercury, solution of adrenaline hydrochloride, etc.—were far more likely than preparations which merely called for parrot-like memory work, such as compound liquorice powder or compound rhubarb pill. It is futile to study official pharmacy without an explanatory text-book. A systematic study of dispensing should also be made. The above remarks are not intended to be beyond criticism. My object is to encourage those students to take the examination who might otherwise have considered themselves without very much chance.

A final remark on the examination itself. Although it is true that scholarships are won at home by consistent, pains-

taking work, it is equally true that they can be lost in the examination room by carelessly throwing away many valuable marks. The time must be carefully watched (of great importance in competitive examinations), tabulations should replace unwanted verbiage and each question should be served up with plenty of "white paper" (i.e., well spread out) to make the examiner's task as easy as possible.

By K. Newberry (Leverhulme Scholar)

HE Leverhulme scholarships, founded by the first Viscount Leverhulme, are open for competition annually by registered student-associates of the Pharmaceutical Society who have already passed the Preliminary Scientific examination. In addition to an essay, the subjects on which the candidate is examined are chemistry, botany, pharmacy and business methods. He should already have sufficient knowledge of chemistry and botany, gained during his studies for the Preliminary Scientific examination, and a basic knowledge of pha:macy acquired during his apprenticeship training.

For this reason I imagine that the subject of business methods is the block over which most aspirants stumble; but

in this connexion I would draw attention to the wording of the syllabus—'' a knowledge of business methods as may reasonably be expected of a student who has completed his apprenticeship.'' A study of the usual methods of business in a retail pharmacy, e.g., the purchase, invoicing, crediting of goods, the book-keeping in connexion with such operations, salesmanship and forms of advertising gave me a sound basis for appreciating the proper conduct of a business. procedure involved in the purchase of an established business or in founding a new business seldom concerns a young student; but a discussion with my employer regarding the inquiries



MR. K. NEWBERRY

to be made, the provisions of a lease, goodwill, etc., furn shed sufficient information for the purposes of this examination. As a final review of the subject, reading the book "Business Methods for Chemists," published by the National Pharmaceutical Union, proved of real value.

After such a general study I found I had covered the syllabus. Careful examination of the papers set during the previous three years gave me an idea of their type, and of those parts of the syllabus which the examiners seemed to consider the most important, so my work was then directed to a thorough revision of those main sections, during the study of which I had, of necessity, to revise the broad principles on which the subjects are founded. I consider that a complete understanding of these principles is the key to success. Isolated, uncorrelated facts are of little value compared with general methods and the reasons for them, especially when the syllabus to be covered is as extensive as that for these scholarships.

In open competitions it is not always the candidate with most knowledge of the subjects who heads the list. Marks can be gained by "presentation" of the answers. By this I mean their orderly, logical arrangement, in as brief a form as possible without omitting any essential details. "Rambling round" the answer only wastes time and tries the examiner's patience. Another policy worth pursuing is to answer the shorter questions first and to leave a plan of a lengthy answer

if insufficient time is left to write it out in full.

The examination over, all that remains is a patient wait for the result; a long wait it seems to those who hope for success. A word to next year's candidates, "Begin studies early, and good luck."

Physiology and the Pharmacist

By Professor Henry Dryerre, Ph.D., M.R.C.S., L.R.C.P.(Lond.)

N the realm of pharmacy physiology has been much to the forefront recently, the inclusion of this subject in the Chemist and Druggist Qualifying examination being responsible for much of this interest. Physiology, as is commonly known, deals with the phenomena of life; it is the business of the physiologist to interest himself in the mechanism by which we "live, move and have our being." The study of the workings of the body should of itself hold an attraction for the intelligent, and the time is fast approaching when no education will be considered complete which has not included at least a short course on the functions of the human machine.

The general trend to-day is to utilise the knowledge derived from the study of chemistry and physics to explain those



PROFESSOR H. DRYERRE

phenomena which are collectively known as "life." The pharmacist in his approach to the study of physiology is thus in a peculiarly advantageous position in respect of his earlier training in these basic sciences. With intelligent application he will observe the manifestations of osmosis, of varying solubilities, of the energy developed at interfacial boundaries, of changes in the hydrogen ion concentrations, closely associated with the phenomena of growth and coordinated action.

It is found convenient in the study of physiology to classify the functions of the body into different "systems." Thus we have the blood and its circula-

absorption, excretion, the muscular mechanism, the endocrines and the nervous system. The fact must not be lost sight of, however, that although for convenience these arbitrary divisions are made, each individual system in the body is affected by every one of the other systems. From this it follows that a more intelligent grasp of physiology will be obtained from a relatively elementary study of all these divisions than from the more intensive concentration on a limited number.

The Function of the Blood

To those who have not yet entered upon their curriculum, it may be of interest to give a brief summary of the more important points of this science. They will learn that the blood is literally "the stream of life." This fluid tissue has suspended in it an almost infinite number of small bodies called corpuscles, red and white. The former are concerned in carrying oxygen for use in the innermost recesses of the body, the latter with the defence of the body against micro-organisms and foreign particles. The fluid of the blood conveys the digested product of the food wherever it is required, and distributes the physiologically active products of the endocrine organs to the tissues for which they are intended; and all the time the blood is a *stream*. When once it ceases to flow it is no longer is a stream. When once it ceases to flow it is no longer physiological, but pathological. This brings us to the study of the heart and blood vessels, the mechanism which maintains the circulation. It will be learned that this market which pump, the heart, is composed of a special kind of muscle which has the unique property of contracting and resting alternately, about seventy times per minute, and that during each resting period, which lasts for only a fraction of a second, it has

recovered fully in preparation for the next contraction.

It will be learned that the body fires are constantly burning, and as constantly calling for oxygen, more oxygen. The greater the amount of oxygen that is being used, the more carbon dioxide is being produced, and this, gaining access to the blood, necessitates a mechanism to regulate the amount accumulating. A special centre in the brain is in control of this, and the centre being, in common with all the other tissues

of the body, fed by the blood stream, it is kept informed as to the existing conditions. Its controlling action is demonstrated by the fact that an increase in the production of carbon dioxide results in breathlessness, thus getting rid of the excess.

It has been stated that the fires in the body are continually burning, and this implies that there must be a constant supply of fuel. The whole of the fuel comes from the food, and actually only two elements are burned—carbon and hydrogen. The food, however, is not suitable for entry into the blood stream as soon as it is swallowed. It must be rendered assimilable. This is done by the chemical process of hydrolysis—usually referred to as digestion. The student will learn how this process is hastened enormously by the help of organic catalysts called enzymes. These enzymes are specific in their action; those acting upon proteins have no action upon carbohydrates, and vice versa. And all these enzymes can act best only in media of a certain reaction. It is here that a knowledge of hydrogen ion concentrations becomes useful. Some of the enzymes are irrevocably destroyed if they are made alkaline, others if they are made acid.

Every factory, every engine which is producing work, is also creating waste material, and the living body is no exception to this basic principle. The waste must be got rid of, otherwise death would occur. Physiology teaches how these products are removed, some through the kidneys, some the lungs, some the skin. Surprisingly, it will be learned that very little is removed by way of the intestines. In the course of the study knowledge will be acquired as to the means by which the muscles function, and of the marvellous co-ordina-tion between these different units to give purposiveness of action and grace of movement. These are effected by the nervous system which, by the ramifications of the nerves to every tissue, co-ordinates the whole. This has been aptly termed the "telegraphic system."

The Endocrine Organs

Lastly, reference may be made to the endocrine organs and the products which they manufacture. These substances, known as autacoids, affect every bodily function; they stimulate secretion, modify muscular activity, influence the circulation, excite the emotions and affect the intellect.

Modern therapy is to-day much influenced by the increasing use of products of animal origin. Reference to the old treatises on medicine shows that this is no new idea. Decoctions of beetles, stewed tails of rats and casseroles of snakes' eyes, mice hearts and frogs' feet, have all had their day. Whilst, however, the modern mind cannot appreciate the basis upon which these therapeutics remedies were adopted, much of the organotherapy as it is practised to-day is upon a sure foundation. But on the other hand some of it is not far removed from the practices of the dark ages. It is in this domain particularly that an individual with a training in physiology is in a position to separate the worthy from the worthless and to give a reasoned explanation for the efficacy of the former. That the study of physiology for itself alone is of value should be sufficient stimulus for the student. When there is added to this the possibility of using the knowledge acquired for the furtherance of good relations between the doctor, the pharmacist and his *chentèle*, then its study is of even more value.

A word of advice to the student may not be considered out of place here. Concentrate on first principles. Learn the fundamentals, get a good broad, general grasp of the factors involved, then, and then only, concentrate on their application in particular instances. If at all possible, the student should obtain one of the smaller treatises on the subject and read it through before commencing his course. Afterwards, when attending his lectures, he will be able to concentrate his attention on the points stressed by the teacher and will be able to appreciate their bearing on physiology as a whole. He will then see the story unfold in panorama before him, he will marvel at the simplicity of the processes and at the economy of nature, and still more at the wonder of the yet unsolved mystery of life.

Trade Notes

August Bonus offer.—Butler & Crispe, Ltd., 80-84 Clerkenwell Road, London, E.C.1, make a special offer during August only of Ninoma nursery and toilet powder.

Lavender flowers.—We have just received from Perks & Llewellyn, Ltd., lavender distillers, Hitchin, Herts, a specimen bunch of this year's lavender crop, the fragrance of which is up to the usual standard.

SPA TREATMENT AT HOME.—Gardner & Baker, Derby, have introduced a new product which they describe as Zeal, a spa-treated salt, and is intended for treatment of rheumatism and other disorders. It is taken as ordinary table salt. The wholesale distributors are Richard Daniel & Son, Ltd., Derby.

APOLLO LIQUORICE JUICE.—MacAndrews & Forbes, Ltd., Bush House, Aldwych, London, W.C.2, inform us that supplies of new season's Apollo stick liquorice juice are now available. Each stick is wrapped in waxed paper and all sizes can be obtained divisible into sections if necessary. There is no change in price.

We have received an advance copy of the handsome Christmas catalogue printed in colour and published by the Dubarry Perfumery Co., Ltd., Goldstone Laboratories, Hove. Distribution to the trade will be made some time next month, but any chemist who would like an early copy is invited to apply for one now.

N. D. K. LABORATORIES, LTD.—In the C. & D., August 8, p. 149, we referred to the voluntary liquidation of this company. We are asked to state in this connexion that N.D.K. tooth paste and other dental products are not affected by this liquidation. Distribution is carried out by Pharmaceutical Products, Ltd., which company is in no way connected with the liquidation referred to.

EDUCATIONAL INSTITUTIONS.—The following is a list of the educational institutions advertising in this issue:

Sunderland Technical College. Harris Institute. Birmingham Central Technical College. Stockport College.
Merchant Venturers' Technical College. University of Leeds. Glasgow Royal Technical College. British Optical Institute, Ltd. Chelsea School of Pharmacy. Educational Institute of Scotland. Norwood Technical Institute. Grimes Manchester Tutorial College. Huddersfield Technical College. Leicester School of Technology. Liverpool School of Pharmacy. Worshipful Company of Spectacle Makers. Kingston Technical College. Robert Gordons Technical College. London College of Pharmacy. Scurr, C. A. Plymouth School of Pharmacy. Westminster College of Pharmacy. University of Manchester School of Pharmacy. Brighton Technical College. Heriot Watt College. National School of Chiropody. Salford Royal Technical College. Woolwich Polytechnic. Royal Dental Hospital School. Sir John Cass Technical Institute. National Association of Opticians. St. Andrews University. South of England College of Pharmacy. Bradford Technical College. Wolverhampton and Staffordshire Technical College. Leeds College of Technology. University College, Southampton.

HOT WATER BOTTLES.—Dunlop Rubber Co., Ltd., Cambridge Street, Manchester, 1, draw attention to the Dunlop hot water bottles in various sizes, shapes and prices in this issue. These products will be nationally advertised.

Winter pastilles are advertised in this issue by Warrick Brothers, Ltd., Nile Street, London. An offer is made of an attractive display screen for window display with certain orders. Full particulars may be obtained on application.

POUDRE TOKALON.—Tokalon, Ltd., 71 Chase Road, London, N.W.10, have introduced a new size of their face powder. Stocks of the existing size will be exchanged up to and including August 31. Details are given in our advertisement pages.

AUGUST PUBLICITY CAMPAIGN.—The Scholl Manufacturing Co., Ltd., 182-194 St. John Street, London, E.C.1, announce an August "extra" campaign which starts on August 15. An offer of Dr. Scholl's tarso-pads is made in connexion with a window display, details of which are given in our advertisement pages, and a bonus offer is available until August 31.

Essential oils.—Uniformity in essential oils is one of the basic requirements of consumers, and this attribute is emphasised in the advertisement of the essential oils of Magnus, Mabee & Reynard, Inc., which appears in this issue. Mohawk brand of peppermint oil is selected for special mention. The distributors in this country are the Old Strand Chemical & Drug Co., Ltd., Audrey House, Ely Place, London, E.C.

Beetham's larola.—Elsewhere attention is directed to a pharmaceutical product which has stood the test of time, namely Beetham's Larola. This preparation has kept its place among the many newcomers in aids to beauty because of its efficiency in softening rough skin and for cleansing the complexion. Larola is issued in two sizes, and display material is available on application to M. Beetham & Son, Cheltenham, so that chemists may link up with advertising in the lay Press.

Trade-Mark Applications

The figures in parentheses refer to the classes in which the marks are grouped. A list of classes and particulars as to registration are given in "The Chemist and Druggist Diary and Year-Book," 1936, p. 322.

(From "The Trade Marks Journal," July 29, 1936.)

"ASMALOS"; for medicinal chemicals (3). By Medical Botany Union, Ltd., 60 High Holborn, London, W.C.2. 568,469.
"Cutex"; for medicinal chemicals (3). By N. Warren, Ltd., 211 Blackfriars Road, London, S.E.1. 568,955. (Associated.)

"Paravite"; for paraffin preparations (3). "Omnivite"; for preparations for human use (3). By C. Heaton, 23 Kirkway, Wallasey, Cheshire. 569,183/450.

"Vembrin"; for all goods (3). By Vembrin Laboratories, 179 Chanterlands Avenue, Hull. 569,359.

"Ersorabs"; for epsom salt tablets (3). By L. Allen, Foy Buildings, Toronto, 2, Canada. 569,437.

"Nefil"; for apparatus to dispense liquids (8). By E. M. Francis, Ltd., 36 Heathcote Grove, Chingford, London, E.4. 568,967.

"Vanderized"; for surgical instruments, etc. (11). By St. Andrew Mills, Ltd., 34 St. Andrew Road, Walthamstow, London, E.17.

Label design with name of manufacturers (device of bunch of grapes and words "Live Natural" and "Nature's Riches" disclaimed); for grape juice (42). By Vita Products, Ltd., 39 Finsbury Square, London, E.C.2. 569,444. (Associated.)

"ATRWAY"; for toilet preparations (48). By A. Finlay, Ltd., Victoria Square, Belfast. 568,024.

"Goldinol"; for hair preparations (48). By Wella-Rapid, Ltd., 5 Eden Street, London, N.W.1. 568,600.

"Dichan"; for perfumery, etc. (48). By D. I. Chang, 209 Stainbech Road, Chapel Allerton, Leeds, 568,672.

Portrait with words "Khaa The New Facial Pack"; for cosmetics (48). By The Khaa Cosmetic Co., 14 Lancaster Gate Terrace, London, W.2. 568,331.

Births

Notices for insertion in this column must be properly authenticated.

SAUNDERS.—On August 6, Betty, wife of Cyril Saunders, M.P.S., Cowbridge Road, Cardiff, of a daughter.

Marriages

Barrow—Lyle.—At St. Mary Magdalene Church, Upton, Torquay, on August 3, Arthur Nolan Barrow, Ph.C., M.P.S., only son of Mr. Thomas Barrow, "Maidencombe," Allesley Old Road, Coventry, to Vera Caroline Lyle, Torquay.

FYFE—MACKINNON.—At Airth, Falkirk, on August 4. Alexander G. Fyfe, chemist and druggist, to Agnes C. Mackinnon.

Deaths

Cappuyns.—At Tirlemont, on August 8, M. Alphonse-Marie-Joseph Cappuyns, managing director of La Citrique Belge, S.A., aged forty-nine.

GILLESPIE.—On August 9, suddenly, Mr. Henry Robert Gillespie, chief accountant and a director of Boots Pure Drug Co., Ltd. Mr. Gillespie is survived by a widow and a son.

JOWETT.—In hospital at Dartford, on August 10, following a motoring accident, Mr. Hooper Albert Dickinson Jowett, D.Sc., Ph.C., aged sixty-six.



DR. H. A. D. JOWETT

Dr. Jowett, who was a Dorsetshire man, was educated at the Royal Grammar School, Lancaster, at which he was Queen's Prizeman in 1884. He was a Jacob Bell scholar in 1891, and passed the Minor and Major examinations of the Pharmaceutical Society in 1892, obtaining distinctions in four subjects and winning the Pereira medal and the Redwood scholarship. In 1893 he was appointed Man-chester Research Scholar at the Society's Research Laboratory; and in the same year he graduated B.Sc. in the University of London, proceeding to the D.Sc. degree two years later. In September 1896 Dr. Jowett joined the staff of the Wellcome Chemical Research Laboratories.

In 1905 he was appointed chief of the experimental department of the Wellcome Chemical Works, Dartford, and in the following year became works manager, a position which he held with great success. He made many contributions to research in alkaloids, notably hyoscine, hyoscyamine, atropine and pilocarpine. Investigations were also undertaken to solve problems connected with the chemical constitution of cascara bark, chrysarobin, epinephrine, and other substances. In the general index to the "Year-Book of Pharmacy" there are numerous entries under his name, the earliest (in association with Sir Wyndham Dunstan) dating from 1893; and he was an occasional visitor at the annual meetings of the British Pharmaceutical Conference. The war of 1914-18 saw Dr. Jowett's gifts exercised to the fullest degree. During this period the Wellcome Chemical Works produced the first British salvarsan (Kharsivan) within a few months of the outbreak of hostilities. After the war there followed original preparations of digitalis, ergot, and other drugs for which he was largely responsible. Dr. Jowett, who was a man of great personal charm, took an active part in local municipal affairs and was for some years a member of the Dartford Borough Council. As recently as July 29 he was present at the funeral of Sir Henry Wellcome, his chief. Dr. Jowett leaves a widow and two children.

Laurance.—At 11 Corringham Court, London, N.W.11, on August 5, Mr. Lionel Laurance, founder of the School of Optics,

Ltd., 2 Guilford Place, W.C.1, aged eighty. Mr. Laurance was also a founder of the Institute of Ophthalmic Opticians and of the Optical Society.

Ryley.—At Bridlington, on August 5, suddenly, Mr. Edward Ryley, chemist and druggist, 23 Lowgate, Hull, aged seventy-four. Mr. Ryley, who was born at Louth, went to Hull in 1882 as assistant to Atkinson & Pickering; in 1886 he took over the business of Balk & Shepardson in Lowgate. He was Worshipful Master of the De La Pole Lodge in 1897, was one of the founders of the Thesaurus Lodge, and held other offices in freemasonry. Mr. Ryley is survived by a widow.

West.—Recently, Mr. Tom Edgar West, chemist and druggist, proprietor of Dawson West, 15 and 17 High Street, Keighley, aged fifty-four. A reference to Mr. West's pharmacy and its incidental connexion with the Brontë family appeared in The Chemist and Druggist of April 1, 1933.

Personalities

The Royal College of Physicians of London has awarded the Weber-Parkes medal and prize to Sir St Clair Thomson, M.D., for his valuable work on tuberculosis of the larynx.

Mr. S. C. Springett has joined the staff of Willows, Francis, Butler & Thompson, Ltd., manufacturing chemists, Shacklewell Lane, London, E.8.

Notice is given in "The London Gazette" that Charles Crichton Birne Solomon, 131 Lawrence Street, York, chemist and druggist, has assumed the name of Charles Crichton Birne Stevens by deed poll.

Miss Griffin, for many years in charge of the Aldersgate Street showroom of S. Maw, Son & Sons, Ltd., London, E.C.I, has been appointed as manager-buyer for the A. department, covering most Maw fashion merchandise.

Mr. W. Dawn Copley, M.P.S., Bulawayo, Rhodesia, has recently arrived in this country. He expects to return in December, and meanwhile may be addressed c/o Tozer, Kemsley & Millburn, Ltd., 84 Fenchurch Street, London, E.C.3.

Mr. Ephraim Schocher, of Ephraim Schocher & Co., Tel-Aviv, Palestine, distillers of essential oils and importers of pharmaceuticals, has arrived in London with a view to increasing the outlets in the British market for their oils and the imports into Palestine of British pharmaceutical products. Any correspondence addressed to him care of this office will be forwarded.

Mr. Thomas Swales, chemists' sundriesman, Leeds, will shortly complete fifty years of unbroken travelling "on the road" and, in his own words "is still going strong." The firm has an extensive connexion in the North of England and the Midlands. In addition to Mr. Swales the firm is ably represented by Mr. Howard Swales (his son) and Mr. W. C. Todd, who has had thirty-three years' service.

Business Changes

Mr. Wallace Pring, chemist and druggist, 7 High Street, Bromley South, has taken another branch at 258 High Street, Bromley (formerly the business of Shillcock & Sons).

Joseph Bell & Sons, Ltd., 91 Upper Brook Street, Manchester, 13, have acquired the business of Mr. H. Garbutt, chemist and drugg st, at 276 Claremont Road, Moss Side, Manchester, 4

Mr. Ernest P. Cresswell, chemist and druggist, has retired from the firm of Saunders & Cresswell, chemists, 59 High Street, Braintree, and the business will be continued by his partner, Mr. Charles B. Saunders, chemist and druggist.

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THE

CHEMIST AND DRUGGIST

VOL. CXXV.

August 15, 1936

NO. 2949

Pharmacy as a Career

THE Annual Educational Number of THE CHEMIST AND Druggist provides an occasion for taking stock of pharmacy as a career. Looking through the syllabuses presented in this issue may well be an education in itself! But, let the syllabuses speak for themselves, and let us consider the comments of examiners on the examinees. These comments, which are made annually, are illuminating pointers to a type of mind which is not after all essentially practical. In the first place pharmacy is a practical calling, and the object of academic training should be essentially to give the necessary technique and the rhythm and poise for extracting the best that life as a pharmacist can give. Some of the comments of examiners suggest to us that we should like first of all to examine the examiners before they examine the embryo chemists. To read through these reports for the nine years they have been issued by the Pharmaceutical Society's Council is rather a depressing undertaking, and the result is not all to be laid on the shoulders of the candidates. True, only the candidates are criticised; but frankness compels us to say that the language and expression of these reports leaves much to be desired. If boards of examiners are to issue reports on examinations, then those reports should in themselves be expressed in unambiguous language and the points where candidates display weakness kindly pointed out with some hint from these experts how to overcome the defects. There is no need to deal hardly with psychological failings, as all these pharmaceutical examinations appear to be constructed on the principle of "tests." The range of the examinations is such that not even the raising of the preliminary standard is going to eliminate any material number of the failures. The examination papers should bear closer relation to the practical life of a pharmacist, and not seek to test him on a wide range of knowledge attractive only to those who have a natural bias for that kind of thing. We cannot but feel that all the changes indicated in this issue and fully operative for those now entering pharmacy have been made on academic lines, and those of common sense appear to have been forgotten.

To revert to this special issue, details are given which it is hoped will be of value to prospective entrants to pharmacy as well as to prospective apprentice masters. The number of schools recognised as centres for teaching aspirants to pharmacy is perhaps rapidly diminishing, but undoubtedly those educational centres left offer a course of training which cannot fail to be of the utmost value after qualification. In this issue, Professor Henry Dryerre, who is himself a pharmacist, gives a most interesting introductory article on one of the new subjects for pharmacy students, physiology. In this article, which is of necessity brief, Professor Dryerre points to the association between pharmacy and the higher medicine. That there is an association is evident, and it is for pharmaceutical leaders to convince entrants to pharmacy that there is after all an outlet to the higher education which they must perforce acquire. One of the unfortunate aspects of pharmacy has

been that young men of great attainments have found that pharmacy has been the key to unlock the door to greater achievements. Yet it is gratifying to see that those who have achieved distinction in other spheres still have pharmacy at heart, and would greatly regret any further decline in its importance in the scheme of things medical. The prizes for great endeavour are reflected in the reports of the two young men who have succeeded in winning the Bell and Leverhulme scholarships. To succeed in these competitions is no easy task, and it is perhaps reasonable to expect the usual result that such men are in future lost to pharmacy in practice.

There have been many legal enactments which have contributed to the decline of pharmacy being practised in a shop. There seems to have been always a stigma in that a pharmacist was a shopkeeper, yet it is somewhat incongruous to find that pharmacy can be exploited by those who are not pharmacists, and those who exploit the craft are men of shrewd, financial outlook and are not unduly hindered by longings for a professional life. We have seen a lugubrious note elsewhere regarding the possible future of pharmacy as a result of chain-store development, yet chain stores are not without their own problems. Overhead charges are considerable, and it is perhaps only because overhead charges can be balanced by greater buying facilities that it is possible in these days for chain stores in pharmacy to exist. It is only necessary to consult managers of one of the largest systems of chain stores in the country to realise how much clerical work is involved daily after the shop is shut. This clerical work has to be repeated at the head offices, and must add considerably to the cost of keeping open shop. Against this apparently formidable competition, there is always the personality and will to serve which only one who is working for himself can establish. It may perhaps even be the modern rendering of St. George and the Dragon, yet we are confident that pharmacy is not yet likely to be swallowed up by the dragon of chain stores or any other, so long as the individual proprietor-chemist retains his individuality in a life which is perhaps not of great financial reward yet is full of interest.

Hairdressers' Registration Bill

Among the matters dealt with by the House of Commons during the last week of the session that has just expired (C. & D., August 8, p. 148) was the first reading of a Bill, backed by nine members of Parliament, "to provide for the registration of hairdressers and to regulate the practice of hairdressing; and for purposes connected therewith." The compilers of the Bill have apparently studied the Dentists Act, 1921, and the Pharmacy and Poisons Act, 1933, with the result that there are to be various ways of admission to the proposed register of hairdressers, some with examination and some without. The twenty clauses and two schedules do not contain much to which, on the face of it, exception can be taken; but a perusal of the provisions makes it obvious that they will need careful scrutiny. Clause 2, for instance, includes the following definitions:—

The expression "hairdresser" means a person who practises hairdressing or performs services ancillary thereto.

The expression "hairdressing" means the performance of any treatment of the hair and scalp, face, hands or arms of any person for the cleanliness, comfort or better appearance thereof; and includes the diagnosis and treatment of any disease of the hair and scalp, face, hands or arms, providing the treatment is not of a nature requiring medical attention and does not include the performance of any operation for which an anæsthetic is required.

The first of these two paragraphs reminds us of the wellknown definition of an archdeacon as a man who performs archidiaconal functions. The second invites speculation as to the attitude of the medical profession when the Bill comes up for its second reading in the House. It is common knowledge that hairdressers take advantage of their natural opportunities for advising their customers on ailments of various kinds, including some usually regarded as remote from the trade or profession of hairdressing. But who is to be the judge of whether a given disease requires medical attention? A customer, for instance, may have a boil on his arm; is the hairdresser authorised to lance it or to prescribe an application for it? It can readily be imagined how loud would have been the objections if any such clause had been suggested for insertion in the Pharmacy and Poisons Act, 1933. Further, Section 20 of the Apothecaries Act, 1815, penalises any unqualified person who acts or practises as an apothecary in any part of England or Wales; and Section 32 of the Medical Act, 1858, provides that no one "shall be entitled to recover any charge in any court of law for any medical or surgical advice, attendance, or for the performance of any operation " and so forth unless he is registered under that Act.

"Diseases and Remedies"

The publication of the seventh edition of "Diseases and Remedies," which we have pleasure in announcing, is an event that we believe will be welcomed by the majority of our readers, and especially by those engaged in retail business.

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The first edition appeared in 1898, a few months after "Pharmaceutical Formulas," and, like some of the other Chemist and Druggist text-books, had its origin in a shorter treatise in one of the C. & D. Diaries. As we pointed out in our issue of August 20, 1898, the object of the book was not to teach medicine. We added:—

"But it is impossible to ignore the fact that chemists are asked daily, and even hourly, questions about disease which they could answer more usefully and intelligently, or they are required to supply some medicine for a simple disorder which they could do with more satisfaction to their customers, with this book on their desks . . . The more intelligent the chemist the less inclined will be be to take on himself more responsibility in this direction than he can possibly avoid, but he cannot trade as a chemist and druggist without being called upon to give advice on all sorts of occasions."

This basic principle has remained unchanged through the successive editions of "Diseases and Remedies." The reason for a thorough revision so soon as five years after the publication of the sixth edition is to be found in the quickened pace of research in medicine. While the general arrangement of the book is preserved, a considerable part of it has been practically rewritten, in order that the task of the chemist in conducting his business in accordance with the best traditions of pharmacy may be made easier. "Diseases and Remedies" may be obtained from the Publisher of The Chemist and Druggist, price 7s. 10d. a copy, post free.

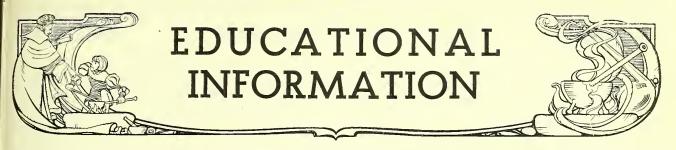
New Books

Kay, C. W., and Laby, T. H.—Physical and Chemical Constants. Eighth edition. $6\frac{1}{2}$ in. \times $9\frac{3}{4}$ in. Pp. 156. 14s. Longmans Green & Co., London. [These physical and chemical tables, which have been considerably revised, are of exceptional utility in the laboratory. Tables include general physics, heat, light, radioactivity, etc.]

Mitchell, A. D.—Sutton's Volumetric Analysis. Twelfth edition. 6 in. × 9 in. Pp. vi. + 628. 35s. J. & A. Churchill, 40 Gloucester Place, Portman Square, London, W.I. [After seventy years Sutton's monumental work remains the classic in volumetric analysis, and despite the editor's desire to keep the book within reasonable limits, new sections have had to be added in accordance with the object of presenting as complete a work as modern science demands. A section on potentiometric titration has been added and the gas analysis section completely revised. Older methods throughout the volume have been discarded in favour of recent scientific views.]

Brimble, L. J.—Intermediate Botany. First edition. $5\frac{1}{2}$ in. \times $7\frac{3}{4}$ in. Pp. 562. 8s. 6d. Macmillan & Co., Ltd., St. Martin's Street, London. [Although intended for students preparing for first University examinations, including Agriculture, Horticulture and the Preliminary Scientific examination, it well reflects the author's stated intention to include certain interesting aspects of what is, erroneously as it happens, frequently described as a dull subject. In consequence, informative notes are given on such diverse topics as vitamins and virus diseases, medicinal plants and economic botany, hormones and auximones, etc. The diagrams, most of which have been prepared by the author, are excellent, and there are many interesting half-tone photographic reproductions carefully selected from authoritative sources. In the section dealing with evolution and plant breeding notes on the origin of species and mendelism are given, with photographs of Darwin and Mendel. Exercises in practical work are set at the end of chapters and as an appendix. There is an excellent index.]

Cooper, J. W., and Denston, T. E.—Text-book of Pharmacognosy. Second edition. 6 in. × 9 in. Pp. 522. 18s. Sir Isaac Pitman & Sons, Ltd., London. [This work, which brings up to date the earlier laboratory manual, will be welcomed for its thoroughness by students preparing for the Qualifying examination. The illustrations, of which there are 200, serve a dual purpose in familiarising the student with the characteristics of the drug under review and also of introducing him to how best to draw what he sees. The monographs are concise and readily followed, in general the system being to give under the title of the drug (1) official source, (2) geographical source, (3) collection, (4) constituents, and (5) practical work. Illustrations in a chapter on the commerce of drugs are taken from and acknowledged to The Chemist and Druggist. Maps showing geographical distribution of drugs, and an index, complete a text-book which shows an intimate association and sympathetic appreciation with present-day students' needs. The proofs have been carefully read and the book is agreeably free from inaccuracies in regard to geographical sources, which are frequently stumbling blocks in works of this nature. Yet it is to be doubted whether ipecacuanha is now cultivated in Federated Malay States or Bengal, but there are few inaccuracies of this nature. Digitalis lanata is wrongly spelt on p. 111.]



Pharmacy

GREAT BRITAIN

THE examinations of the Pharmaceutical Society are written and practical, with an oral test in pharmacy. The new syllabus is in full operation from now onwards, and examination on the old will only apply until April 1937, though arrangements have been made for those who had begun their studies before the

change was effected.

Numerous alterations have been made in the regulations, and for the most part they are rendered more understandable. At the same time, there are a few points where overlapping occurs as a natural condition when a syllabus is widened and extended. The first examination on zoology will be in July 1937, while physiology will have its practical side in the Pharmaceutical Chemist examination.

The examinations are written and practical, and provision is made to hold the written portion at convenient provincial centres. The practical takes place in London and Edinburgh only, and is arranged to follow the written as soon as practicable. Students who have passed recognised science examinations equivalent to the Preliminary Scientific have many advantages; a good foundation is laid for future progress. Greater stress is being laid upon the value of taking the Preliminary Scientific early, and those whose experience of pharmacy justifies them in expressing an opinion have no hesitation in suggesting to parents and guardians that it should be taken before apprenticeship begins. It should be made clear

that full-time collegiate training is now compulsory; the number of hours is specified as so many a week for the required academic terms, and attendance must satisfy the governing

authorities.

The standards for the entrance examinations into pharmacy have become more stabilised, and though Matriculation is not the only examination accepted, a better foundation is made by the elimination of the low standard so long prevalent. Students should be reminded that no practical course of study or approved course of instruction or part thereof undergone before the examination requirements for registration as an apprentice or student have been satisfied can be recognised under the regulations.

The number of schools recognised for the training of students for University standard is now at a reasonable figure, and no increase is likely to be needed for future requirements in pharmacy. The new Preliminary Scientific (1937) will be on the same basis as the First Science of London University. London B.Pharm. examination, whether "internal" or "external," will be reduced in length from nine to eight days, and the same occurs in the Ph.C. The only difference between a Ph.C. examination and a B.Pharm. examination is in forensic pharmacy.

We recommend that full use should be made of the details set out under the respective subjects, and call the attention of masters of apprentices to the instructions on training embodying a practical course of study during apprenticeship similar to that set out for institutions. This is attached as an appendix to the indentures. It is yet too soon to look for any results from these training suggestions. It is advisable for eligible students to train and enter for the scholarships now available as a sound method of beginning life.

Chemist and Druggist and Pharmaceutical Chemist Qualifications

(IN BRIEF)

- r. Notification and registration with the Pharmaceutical Society of having passed an approved Preliminary examination.
- Apprenticeship (indentured), of 4,000 or 2,000 hours (for Ph.C.) to include practical training set out in the appendix attached to the indentures,
- 3. Preliminary Scientific examination in chemistry, including attendance at a recognised institution and an approved systematic course of instruction in chemistry, physics and biology of at least 25 hours weekly during each term of a session of three terms. (This examination may be taken before apprenticeship.)
- 4. On completion of Preliminary Scientific and apprenticeship attend at a recognised institution an approved course of instruction of not less than 25 hours weekly during each term of a session of three terms in pharmaceutical chemistry, pharmacognosy, pharmaceutics, physiology and forensic pharmacy.
- 5. At the age of 21, or thereafter, Chemist and Druggist Qualifying examination in pharmaceutics, pharmaceutical chemistry, pharmaceutical chemistry, pharmaceutical Chemist qualification in pharmaceutics, pharmacognosy, physiology, chemistry, and forensic pharmacy.

Preliminary Examinations

The first step on deciding to take up pharmacy is to pass a Matricula-tion or other examination admitting to a course for a degree of any university in Great Britain or other university approved by the Pharmaceutical Council, or pass at one sitting the medical preliminary of the College of Preceptors or the Educational Institute of Scotland, of which mathematics must be one of the subjects. If a Preliminary was passed before April 1, 1936, which included English, mathematics, a language other than English, an additional language or higher mathematics, chemistry, physics, botany, zoology, biology or geology, the Registrar is empowered to accept the certificate if passed at not more than two sittings. Any variation from these conditions must be submitted to the Pharmaceutical Council for consideration.

A person over twenty-five years of age may apply to be admitted to a special Preliminary examination; he must furnish such particulars of his education as the Council of the Society may require. The fee, including registration as apprentice or student, is 44 48.

In general terms, the certificates submitted must be of equal value to those specified in the list. The list of certificates at present accepted is given below. Any student entering pharmacy and desirous of obtaining a degree through a university must pass its matriculation examination.

LIST OF CERTIFICATES ACCEPTED

The following is a list of the principal certificates accepted:—

The Final examination for a degree of any university in the United Kingdom approved by the Council.

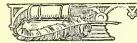
Universities of Birmingham, Leeds, Liverpool, Manchester, and Sheffield.—Joint Matriculation examination. School Certificate examination.

University of Oxford.—Responsions.

University of Cambridge.—Previous examination.

University of Durham.—Matriculation examination, First School Certificate examination, Higher School Certificate examination.

University of London.—Matriculation examination, General School Certificate examination, Higher School Certificate examination.





Victoria University of Manchester, University of Birmingham, University of Liverpool, University of Leeds, and University of Sheffield, Joint Matriculation Board of.—Matriculation examination, School Certificate examination, Higher School Certificate examination.

University of Bristol.—Matriculation examination, School Certificate examination, Higher School Certificate examination.

University of Wales.—Matriculation examination.

Scottish Universities Entrance Board.—Preliminary examination.

Queens University of Belfast.—Matriculation examination.

National University of Ireland.—Matriculation examination.

Oxford and Cambridge Schools Examination Board.—School
Certificate examination, Higher School Certificate examination.

Oxford Delegacy of Local Examinations.—School Certificate examination, Higher School Certificate examination.

University of Cambridge Local Examination Syndicate.— School Certificate examination, Higher School Certificate examination.

Central Welsh Board.—School Certificate examination, Higher School Certificate examination.

Scottish Education Department.—Leaving Certificate

examination.

Ministry of Education of Northern Ireland.*—Senior Certifi-

cate examination.

Department of Education of the Irish Free State.—Leaving

Certificate examination.

College of Preceptors.—Senior examination, Medical Preliminary examination.

Educational Institute of Scotland.—Medical Preliminary examination.

And various universities throughout the Empire.

The College of Preceptors, Bloomsbury Square, London, W.C.1, holds examinations for certificates four times a year at local centres, a list of which is issued two months before each examination. Entry forms, obtainable from the secretary of the College, must be filled up and returned six weeks before the day appointed for the examination. On the form the candidate indicates the subjects in which he desires to be examined, those required for pharmaceutical students being mentioned at the beginning of this section. The fees are best sent with the entry forms, but, if not, must be paid twenty-eight days before the examination begins. Candidates should obtain the regulations for examinations (post free) from the Secretary of the College, as the books to be studied in some of the subjects vary from year to year. A complete set of papers at previous examinations can be obtained from the College at 2s. 2d. post free.

EDUCATIONAL INSTITUTE OF SCOTLAND (Registrar's Office, 47 Moray Place, Edinburgh) holds an examination four times a year in Edinburgh, Glasgow, Liverpool, London and Dublin. The fee is £1 1s., and should be sent to the Registrar with the form of application duly filled in. The Institute issues a calendar giving the regulations, price 6d., and examination papers, price 1s., obtainable from the Registrar.

A certificate of having passed a preliminary examination complying with the conditions having been obtained, it should be sent to the Registrar, the Pharmaceutical Society, 17 Bloomsbury Square, London, W.C.I, accompanied by a fee of \$\frac{1}{2}\$ 2s., the student being then registered as an "apprentice or student."

Registration is insufficient in itself, articles of pupilage must be taken up and filed, copies of which can be obtained from the Registrar at the same time. Apprenticeship may be served with a pharmacist, firm, or body corporate, or in an institution recognised by the Council of the Pharmaceutical Society, or in the laboratory of a wholesale house subject to the same approval. A practical course of training is now mapped out and is attached to the indentures, thereby becoming an integral part. The specified number of hours required to be spent in an open shop or approved public institution is 4,000. In addition, a recognised course of study must be taken before the Preliminary Scientific examination can be undertaken, and subsequently a further period in college for the Qualifying examination.

The Technical Examination

The Board of Examiners sits in London and Edinburgh in January, April, July and October for the purpose of conducting the statutory practical and any oral examination recognised. Prior to these times the written portion of the examinations must be taken at the appropriate centres. For the Pharmaceutical Chemist examination the Board sits in January and July only. The first part, called the Preliminary Scientific, includes biology, chemistry and physics, except that before June 1, 1937, the subjects of examination shall be chemistry, botany and physics. The second part includes pharmacognosy, pharmaceutics, pharmaceutical chemistry, physiology and forensic pharmacy. Its specific name is the Chemist and Druggist Qualifying examination. For the purpose of simplification the Pharmaceutical Chemist qualification is dealt with separately under that heading.

The Preliminary Scientific should be taken between the ages of eighteen and twenty-one, and may be taken before apprenticeship; the Qualifying examination can only be taken after

the age of twenty-one has been reached.

The fee payable for the Preliminary Scientific is £6 6s., and the conditions are: The candidate must have spent the requisite academic terms in an institution approved for the purpose by the Pharmaceutical Society's Council. If a candidate is referred in one subject only he may re-enter for that one only. Two "refers" are equivalent to a failure in all. In addition, the Board of Examiners have now the power to impose further conditions (periods of study) on those who failed to satisfy the Board. The re-examination fee is £4 4s. A candidate who has failed to attend an examination at the appointed time must pay an additional fee of £2 2s. unless prior to the examination a medical certificate of unfitness is lodged with the Secretary of the Pharmaceutical Society.

Having passed each subject in the Preliminary Scientific and completed 4,000 hours in an open shop, approved public institution, or approved wholesale chemist's laboratory, and the necessary collegiate training for the Final examination, and reached the age of twenty-one, the candidate should send a birth certificate, together with another fee of £12 12s., and the necessary declaration of having completed the conditions, on the prescribed form, to the Registrar. The examination is conducted on similar lines, and success in all subjects entitles the candidate to be registered as a chemist and druggist by examination.

All candidates have the choice of being examined in the practical portion of the examination in London or Edinburgh, and they are required to state the venue desired when filling up the entrance form. The candidate's books showing the practical work in all subjects must be taken to the examination for inspection by the examiner should he so desire.

The Examination Syllabuses

The official syllabus of the Pharmaceutical Society for the Preliminary Scientific is set out, though examinations in lieu of this may be taken in approved institutions.

Preliminary Scientific

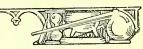
The examination is the same for chemist and druggist and pharmaceutical chemist, and when the full syllabus is in operation the examination will extend over three and a half days.

BOTANY

The syllabus as set out below will only be in force until June 1, 1937.

Morphology, including anatomy. The external form of plants: Thallus, root, stem, leaf. The distinguishing features and commoner modifications of these structures. Buds and vernation. Principles of branching and different kinds of branch systems. Phyllotaxis and branching. Inflorescence, flower, fruit. Pollination. Self and cross fertilisation. The formation of the seed. Germination. A general acquaintance with the elements of plant anatomy; the vegetable cell (tissues, e.g., meristematic, epidermal, fundamental and vascular). The characteristic anatomical features of roots, stems and leaves of flowering plants and ferns. The methods of increase in thickness of stems and roots, and the characters of primary and secondary tissues.





The nature and source of the food of The elements of physiology. plants, and the manner in which the raw materials are elaborated. Chlorophyll, its manner of occurrence in the plant; its functions and the conditions under which it discharges them. Reserve materials, their nature, mode of deposition, and the manner in which they are utilised by the plant. The manner in which plants grow, and the conditions necessary for the growth of a plant. The manner in which plants respond to external stimuli-e.g., light, gravity, etc. Sexual and asexual reproduction.

Classification.—A general knowledge of the chief divisions of the vegetable kingdom, including a special study of the plants and families named.

THALLOPHYTA.

Algæ: -- Spirogyra, fucus.

Fungi: -- Agaricus, saccharomyces, bacillus.

Вкуорнута.

Funaria and Pellia.

PTERIDOPHYTA.

Dryopteris filix-mas.

SPERMAPHYTA.

Gymnospermæ.—Pinus, with only the general external features of Cycas and Taxus.

Angiospermæ.

Dicotyledones:—Ranunculaceæ, Cruciferæ, Rosaceæ, Leguminosæ, Umbelliferæ, Compositæ, Scrophulariaceæ, Labiatæ, Solanaceæ, Salicaceæ.

Monocotyledones: - Graminaceæ, Liliaceæ.

Practical Examination.—To dissect, examine and describe any plants or parts of plants, and to refer to their systematic position any plants belonging to the above-named families. To prepare for the microscope and describe sections illustrating the anatomy mentioned above, and to bring to the examination his original laboratory notebooks

Comment on a syllabus with only a limited life is unnecessary. It will be sufficient to say that provision for the examination of those who have previously entered and failed will be made for a short period after June 1, 1937. Otherwise the subject will be biology, which includes Part I botany, Part II zoology.

CHEMISTRY

An elementary knowledge is required of the following subjects:-

(a) The chief characteristics of chemical action, the distinction between elements and compounds; the laws of chemical combination by weight and volume; the hypothesis of Avogadro; kinetic theory of gases; theory of dilute solutions; ionisation; conductivity; acids, bases; solubility product; osmotic pressure; Raoult's law; chemical equilibrium and law of mass action; endothermic and exothermic reactions; equivalent weight; atomic weight and molecular weight; chemical formulæ and nomenclature; valency; the distinction between metals and non-metals, and the periodic classifidistinction between metals and non-metals, and the periodic classifi-cation of the elements. (b) The general characters of the non-metals; the chief methods of preparation and the typical reactions of the following non-metallic elements and compounds: Hydrogen, oxygen, ozone, water, hydrogen peroxide, chlorine, bromine and iodine, and their compounds with hydrogen and oxygen; fluorine, hydrofluoric acid, nitrogen, ammonia and ammonium compounds, the oxides of nitrogen, nitrous acid, nitric acid; sulphur, hydrogen sulphide, sulphurous and sulphuric anhydrides and acids, thiosulphuric acid; phosphorus, the oxides and oxy-acids of phosphorus, the chlorides of hydrogen sulphur cities hove hore acid. The general charge in the sulphur cities hove hore acid. phosphorus, silicon, silica, boron, boric acid. (c) The general characters and classification of the metals, and the general methods of forming oxides and salts; the sources, the usual method of extracting and the chief properties of the undermentioned metals, also the modes of preparation, properties, adulterations and contaminations of their principal compounds: Potassium, sodium, lithium, barium, strontium, calcium, magnesium, zinc, aluminium, iron, chromium, manganese, nickel, cobalt, arsenic, antimony, tin, copper, bismuth, lead, silver, mercury, gold and platinum. (d) Carbon, its oxides, methane, ethylene and acetylene. The methods of estimating carbon, hydrogen, oxygen, and nitrogen in organic compounds, and of obtaining molecular formulæ. The candidate is expected to solve simple problems relating to the weight and volume expected to solve simple problems relating to the weight and volume under different conditions of temperature and pressure of elements and compounds concerned in chemical reactions.

The whole of the syllabus in chemistry is to be treated in an

elementary manner and as far as possible experimentally.

Practical Examination.—To exhibit a practical acquaintance with the methods of preparing the more important inorganic substances. To identify by chemical tests the more important non-metallic elements and their compounds, as well as the metals and salts indicated in the foregoing list. To analyse a mixture containing not more

than two basic and two inorganic acid radicles. To be able to weigh accurately on a standard analytical balance involving the use of a To show a knowledge of the principles of volumetric analysis and to prepare, standardise and use volumetric solutions of inorganic acids, alkalis, potassium permanganate, and silver nitrate.

The syllabus is slightly extended to include more physical chemistry. This subject of chemistry can only be learned practically. Unless a person's mind is given to synthesis and analysis and he practises the handling of apparatus, he may memorise a mass of theory but he will never become a chemist. Reports from the examiners on the candidates' work show that it is frequently the most elementary questions that are badly answered. In other cases there is lacking the art of expressing answers to simple questions so as to be easily understood. The variation in the arrangements within the collegiate period should help the serious student materially.

BIOLOGY

This subject replaces the old "botany" syllabus, but no examination will be held covering it until July 1937. For those now entering on their final course it is the only syllabus to be considered. The theoretical portion is in one written session, and a session each will be required for Part I (botany) and Part II (zoology), covering the practical and dissecting side. This extends the examination by one half-day.

PART I.—BOTANY.—The form and function of the roots, the stem and the leaves of a green herbaceous plant and of a woody perennial plant and the effect of environment on their anatomy. The modifications of plant organs for special func-tions. The structure of the plant cell. Cell division. The structure, arrangement and functions of the tissues of Angio-sperms. The structure of a typical flower and the function of its various parts. The fruit. The structure, dispersal and germination of seeds. The elementary facts of growth and autivition including photosynthesis and recovering and a connutrition including photosynthesis and respiration, and a consideration of the physiology of heterotrophic plants. The commoner foods found in plants; their digestion and utilisa-tion. A general knowledge of the chief divisions of the vegetable kingdom as exemplified by a study of the life-history, structure and reproduction of the following:—

Chlamydomonas, Spirogyra, Fucus, Mucor, Agaricus, Dryopteris Filix-mas, Pinus and an Angiosperm. The principles of taxonomy as illustrated by a study of the following families of Angiosperms: Ranunculaceæ, Leguminosæ, Umbelliferæ, Solanaceæ, Compositæ, Liliaceæ.

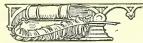
Practical Examination.—The dissection, examination and description (exclusive of identification) of any plants or parts of plants. The making of microscopical preparations and the description of preparations illustrating the anatomy of plants. The conduct of, or comment on, experiments illustrating the fundamental life-processes of the plant.

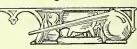
PART II.—Zoology.—The structure and properties of the cell and the general characters and functions of the tissues including the epithelia, blood and lymph, and the nervous, muscular, connective and skeletal tissues. The general structure, physiology and life history of $Am\varpi ba$ and $Param\varpi cium$. A comparison of these with plants. An outline of parasitism as illustrated by the life history of the malarial parasite and liver fluke. The general structure, vital activities and life history fluke. The general structure, vital activities and life history of Hydra and Lumbricus, as illustrative of diploblastic and triploblastic invertebrata. The general structure and life history of Blatta as illustrative of insect organisation and development. The structure, life history and elementary physiology of Vertebrata as illustrated by Rana (excluding the skeleton) and Lepus. The general phenomena of sexual and asexual reproduction in animals. The history and characters of the germ cells, the chief types of segmentation of the fertilised ovum. The outline of the embryology of the frog and the chick. The elementary facts of heredity, variation and evolution.

Practical Examination.—The dissection, microscopical examination and description of specimens or parts of the animals mentioned above.

Physics

Velocity, acceleration, mass, momentum, force, work, energy, gravity, centre of gravity; simple machines; pressure





in liquids, the siphon, water pumps; principle of Archimedes. Boyle's law, compression and exhaust pumps; atmospheric pressure; surface tension; diffusion, osmosis. Temperature; thermometry; changes in volume of solids, liquids and gases with alterations of temperature; quantity of heat, specific heat; change of state, latent heat; melting and boiling points; vapour pressure; hygrometry; conduction, convection and radiation; relation between heat and work. Photometry; laws of reflection and refraction; formation of images by plane and spherical mirrors and lenses; the eye as an optical instrument; defects of vision and their correction by lenses; action of prisms on light; dispersion, colour. Properties of magnets; magnetic field, lines of force; law of force; the earth as a magnet. Simple phenomena of static electricity; potential, induction, distribution of electrification of conductors; influence machines; capacity; principle of condenser, Leyden jar. Electric currents, magnetic, chemical and heating effects; primary and secondary cells; current strength; electromotive force; Ohm's law; resistance, specific resistance; galvanometers, ammeters and voltmeters; metre bridge; potentiometer; induced currents.

Practical Examination.—Simple exercises illustrating the above, including:—Use of vernier, screw-gauge, balance, hydrometer; measurement of time and oscillation. Determination of volumes by weighing in air and water, densities, specific gravities of solids and liquids; verification of Boyle's law. Determination of coefficients of expansion, melting points, boiling points, specific heats, latent heats, dew point. Tracing paths of rays; determination of refractive indices by slab and prism; focal lengths of mirrors and lenses. Tracing lines of force. Measurement of time of swing of a magnet; comparisons of magnetic moments and of field strengths. Comparison of electromotive forces and resistances. Use of galvanometer, ammeters and voltmeters. Electrolytic measurements.

ammeters and voltmeters. Electrolytic measurements.

It is interesting to note the reaction of the examiners to the work of the examinees. During the last year they admit that the standard of the theoretical and practical work has been maintained. At the same time, carelessness is shown in working out numerous problems, especially in transferring figures from reading to the answer book. A smaller number of experiments well done and thoroughly understood would probably lead to better results. More acquaintance with the use of graphs is desirable.

EXTERNAL EXAMINATIONS IN PHARMACY

Apart from the examinations of the Pharmaceutical Society's examiners as set out in the above syllabus, there is a proviso for the acceptance of certificates in lieu of the Preliminary Scientific. They are: (1) The Final or Intermediate examination of any University in England and Wales, and the corresponding examinations of any university in Scotland or any other university, providing the examinations have been approved by the Council of the Society. The first or subsequent examination for any degree or diploma recognised by the General Medical Council, providing the examination has been approved by the Council of the Society. (2) The Higher School Certificate examination conducted by an examining body approved by the Board of Education for subjects taken as principal subjects. The fee on acceptance of these certificates is £2 2s., and subsequently the same regulations apply as to the Pharmaceutical Society's examinations.

Qualifying Examinations

PHARMACOGNOSY

The syllabus set out below is that now in being, though suitable arrangements are made for examination under the old syllabus for those who are entitled to be so examined owing to their previous entry.

The cultivation, collection, preparation for the market, the commerce in and the storage of crude drugs as illustrated by the drugs named in the list below.

The macroscopical characters, the biological and geographical sources, the commercial varieties and adulterants, the constituents and the qualitative chemical tests for the following drugs:—

Acacia Aconitum Agar Aloe Amylum Anethum Anthemis Asafœtida Aurantii Cortex Balsamum Peruvianum Balsamum Tolutanum Belladonnæ Folium Belladonnæ Radix Benzoinum Buchu Calumba Cannabis Cantharis Capsicum Cardamomum Carum Caryophyllum Cascara Sagrada Catechu

Cera Flava

Cinchona Cinnamomum Coca Coccus Colchici Cormus Colchici Semen Colocynthis Colophonium Copaiba Coriandrum Creta Digitalis Folium Dryopteris Filix-mas Ergota Fœniculum Gelatinum Gentiana Glycyrrhiza Hamamelis Hyoscyamus Ipecacuanha Ipomœa Jalapa Krameria Limonis Cortex Linum

Lobelia Mel Myristica Myrrha Nux Vomica Opium Podophyllum Podophyllum Indicum Prunus Serotina Ouassia Quillaia R̃heum Savin Scilla Senega Sennæ Folium Sennæ Fructus Serpentaria Stramonium Strophanthus Styrax Tamarindus Tragacantha Valeriana Zingiber

The extraction of fixed and volatile oils as illustrated by the following:—Castor oil, clove oil, cod-liver oil, olive oil. The more important classes of constituents of crude drugs with reference to their behaviour when used in making pharmaceutical preparations and when dispensed. The microscopy of starch, calcium oxalate and epidermal trichomes and the microchemical tests for cellulose, lignin, the materials used for filtering and the fibres used for surgical dressings.

Practical Examination.—The candidate will be required to examine, dissect, identify and describe, in the entire or broken condition, the drugs mentioned in the above list, by means of their macroscopical characters, by qualitative chemical tests, and by the microscopy of calcium oxalate and epidermal trichomes. To examine fibres and fabrics used for surgical dressings, materials used for filtration, and starch.

The net dealing with characteristics of certain drugs is more widely drawn, and it is evident that something more than recognition and a knowledge of a few diagnostic characters will be required. In addition, we have the introduction of fibres and fabrics used for surgical dressings, materials used for filtration, and starch. The oral examination disappears, and the practical session is one of two hours.

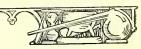
PHYSIOLOGY

This subject follows on pharmacognosy, and the same remarks apply. Anyone trained under the old syllabus will not be required to take this subject until after March 1, 1939. The syllabus sets out:—

The structure of the blood, coagulation; the transport of oxygen and carbon dioxide. The properties of cardiac, striated and unstriated muscle. The mechanism of the heart and valves. The coronary circulation. The effect of inflow and rate on the output of the heart. The importance and maintenance of the blood pressure. The structure of the glands of internal secretion. The effects following their removal, and the properties of extracts prepared from them, including (a) the pituitary body, anterior and posterior lobes, (b) the thyroid and parathyroid, (c) the pancreas, (d) the suprarenals, (e) the testicles and ovaries. The physiology of the alimentary tract including a knowledge of the control of salivary, gastric, pancreatic and biliary secretion, and of the movements of the alimentary tract. The chemistry of the common food substances, meat, eggs, milk and bread, and the properties of the digestive juices and bile.

One examination in this subject has been held and, judging by the results, candidates did fairly well. It is natural to assume that the examiners would exercise particular care in the assessment of marks, seeing that the teaching had to create a new atmosphere in pharmaceutical examinations. The teachers have met and conferred with each other on the experience gained and the construction of something useful for the training of the future pharmacist. For the first few years careful scrutiny of the examination papers is essential.





PHARMACEUTICS

The history of pharmacy from A.D. 1600. The principles involved in pharmaceutical operations including a consideration of the pharmaceutical application of the following:

Vapour pressure, solution, ionisation, osmotic pressure, hydrolysis, viscosity, surface tension, distillation, sublimation, colloidal state. The galenical preparations included in the British Pharmacopæia, their biological and chemical standards, changes liable to occur in these preparations, and the means of preventing them. Enzyme action. The biology of bacteria in so far as it bears on the preparation of sterile solutions, vaccines, and on the performance of sterility

The preparation of such serums, vaccines and hormones as occur in the British Pharmacopæia. The compounding and dispensing of medicines. Surgical dressings and their standards. The interpretation of prescriptions and the translation of Latin prescriptions into English. Posology.

Practical Examination .- The candidate must be prepared to conduct ordinary pharmaceutical operations, including the making of the galenical preparations in the British Pharmacopæia, the dispensing of prescriptions, the making of sterile preparations; the detection of unusual doses and the completion of his preparations in a proper manner.

On the surface this subject, pharmacy, appears the most changed; the name becomes pharmaceutics so as to provide for the inclusion of certain things that might be said to be on the border-line of pharmacy rather than included within the circle. The syllabus is reconstructed entirely and a little history thrown in. Instead of an attempt at setting out details of what should be taught, the general principles are given. The committee which drew up the report on the syllabus stated: "The changes in the syllabus for the existing subjects, apart from changes of content, are in the direction of ensuring that training will be based more upon principles than specific methods and substances, the British Pharmacopæia being used to provide illustrative examples rather than to form the basis of training." Though the Committee proposed to eliminate the oral portion, a short oral was finally reinstated. The finally reinstated. new parts or those transferred

from other subjects include vapour pressure, etc., biology of bacteria, serums, vaccines and hormones of the B.P., surgical dressings and their standards. The comments of the examiners are always interesting and helpful. The first report on the subject as here set out is not yet available. Not the least intriguing feature in anticipation will be the comparison of comments and results in 1935 and 1936, which may help in appraising the value of so many changes made in the pharmaceutical syllabus.

PHARMACEUTICAL CHEMISTRY

The general principles of inorganic chemistry with particular reference to those elements and compounds in frequent use in pharmacy: their preparation, properties and purification for pharmaceutical use. The general principles of organic chemistry involving the main types of aliphatic substances and the simpler aromatic compounds containing the benzene nucleus, with special reference to those of pharmaceutical importance. Pharmaceutical standards of purity and chemical tests of conformity therewith. The principles involved in the practical work of this syllabus.

Practical Examination—The candidate will be required to show ence to those elements and compounds in frequent use in pharmacy:

Practical Examination.—The candidate will be required to show

practical familiarity with the following in reference to their applica-

The preparation of simple organic compounds such as chloroform, ether, acetaldehyde, ethyl acetate, nitrobenzene and acetanilide. The identification by chemical tests of the salts of the simple organic acids: the identification or reference to class of simple organic compounds. The performance of the simple chemical tests used to limit the adulterations and contaminations which may occur in the inthe adulterations and contaminations which may occur in the inorganic substances, and in the simple organic compounds of pharmaceutical importance. The quantitative determination of quinine in
iron and quinine citrate and of the alkaloidal content of simple solutions of alkaloidal salts. Simple gravimetric analysis illustrated by the
determination of moisture limits,
sulphates, aluminium and iron.
The volumetric determinations of
simple chemical substances and of
simple chemical substances and of

such when present in simple solu-tions. Alkalinity of glass. The use of the nitrometer illustrated by the estimation of organic nitrites.

A reform in the layout of this syllabus has also been made. The examination is of the same length as before—three hours written and three hours practical. It will be seen that there is greater elasticity in the form set out above, and a more adequate teaching should result. Details are always apt to cramp style; greater freedom was generally taken, and the above syllabus gives it sanction. The examiners report that the practical work done is better than the theoretical. Though it is desirable to raise the efficiency figure in theory, it is not too much to say that appreciation of the results of practical training is something for which to be thankful.

Syllabus for Chemist & Druggist Examinations

(IN BRIEF)

Preliminary Scientific

BIOLOGY

1. Botany
Morphology, including Anatomical Structure; Physiology,
Reproduction; Physical Effects of Light and Gravity, classification, dissection and description of plants within specified classes.

2. Zoology
The cell and general characters; functions and kinds of tissues; life-history of Amæba; Paramæcium; Hydra; Lumbricus; Blatta. Parasitism; heredity; variation and evolution.

CHEMISTRY
Chemical Principles; Non-Metals and their Compounds;
Characters and Classification of Metals; Formation of Oxides
and Salts; Carbon and its Oxides; Knowledge of Estimation
of Carbon; Hydrogen, Nitrogen; Simple Chemical Problems.

PRACTICAL CHEMISTRY

Analysis of a salt containing not more than two Metals and two Acid Radicals; Identification and Knowledge of specified metals and salts; Principles of Volumetric Analysis and standardisation of solutions.

PHYSICS

Conservation of Energy; Gravitation, Balance, Pressures; Diffusion, Vapour Densities; Thermometer, Barometer; Specific Gravity. Mass, Force, Energy, Work; Forms of Matter; Temperature and Pressures; Light: Reflection and Refraction; Correction of Vision; Magnets: Static and Current Electricity; Deirgery and Special Cells. Primary and Secondary Cells.

Qualifying

PHARMACOGNOSY Pharmacoposial Drugs and others specified; Recognition, Classification; Sources, Structure, Chemical and Physical Characteristics; Active Principles.

PHYSIOLOGY

Blood; coagulation; oxygen; carbon dioxide. Varieties of muscle; heart and its valves; glands and secretion; coronary circulation; blood pressure; the alimentary tract.

PHARMACEUTICS

Laboratory Methods and Appliances; Prepar Production of Galenicals; Knowledge of Assay; St Dispensing and Prescription Reading and Translation. Preparation and ssay; Sterilisation;

PHARMACEUTICAL CHEMISTRY

Preparation and properties of specified medicinal organic compounds. Pharmacopeial tests for impurities, assay, and volumetric determinations.

FORENSIC PHARMACY
Knowledge of Schedules, Conditions and Precautions of
Sales of Poisons, and Laws Affecting the Keeping of Open Shop.

Forensic Pharmacy

The candidate will be required to possess such information concerning the following enactments and the regulations made under them as is applicable to the practice of pharmacy in shop and hospital:—The Pharmacy and Poisons Acts, 1852 to 1933, the National Health Insurance Act, 1924, the Dangerous Drugs Acts, the Apothecaries Act, the Medicine Stamp Act, the Shops Acts (sections dealing with the sale of medicines), the Weights and Measures Acts, the Protection of Animals Act, the Sale of Food and Drugs Act, the Registration of Business Names Act, the Venereal Disease Act, the Therapeutic Subsections of the Acts relating to the regulations made under them as is

stances Act, and the relevant sections of the Acts relating to the use of stills, the sale of spirits (including methylated spirit and medicated wines), the sale of abortifacients.

The true interest of this subject at the present moment is the Poisons List, 1935. The immediate examinations should be interesting for all (perhaps excepting the student). Meantime for the latter the safe way to understand the complications is the C. \mathfrak{S} -D. Poisons Guide, in studying which the difficulties will largely vanish.

Summary of Examination Fees

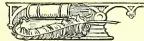
Apart from the fee for collegiate courses, the following are payable by pharmacy students:-

Registration as student, £2 2s.

Preliminary Scientific, £6 6s.

Re-examination in case of failure, £4 4s.; a person who has failed to attend, £2 28.

Chemist and Druggist Qualifying examination, £12 12s.





Re-examination in case of failure, £6 6s.; a person who has failed to attend, £3 3s.

Pharmaceutical Chemist Qualifying examination, £12 12s.

Those about to enter the calling should be informed as to the conditions for a chemist and druggist qualification, and under competent advice, parents and guardians should weigh carefully the advantages and disadvantages of the method of procedure. The conditions of the chemist and druggist qualification are dealt with under the appropriate heading. Two ways are possible for the pharmaceutical chemist qualification, one hrough the examinations of the Pharmaceutical Society and the other through the University of London or any other recognised university. The training and examinations of London University include both internal and external students.

The entrance examinations are the same as those of the chemist and druggist qualification, and after registration the question of apprenticeship before or after the Preliminary Scientific examination should be settled. The Preliminary Scientific is the same for both qualifications. At this point a decision should be made whether the chemist and druggist course is to be taken or that of the pharmaceutical chemist. The process of passing from the chemist and druggist to the pharmaceutical chemist is now fairly straightforward. The examination for the pharmaceutical chemist qualification is held in January and July. The regulations require apprenticeship under similar conditions to those of the chemist and druggist. The course of training in college consists of two sessions (two academic years) of not less than twenty-five hours weekly of three terms in pharmaceutical chemistry, pharmacognosy, pharmaceutics, forensic pharmacy and physiology. Examination may still take place on the old syllabus for those who began before September 1, 1935. Otherwise the syllabus is as follows:—

Syllabus for the Pharmaceutical Chemist Qualifying Examination

The Pharmaceutical Chemist examination, by rearrangement of the syllabus, will occupy eight days against nine under the old curriculum. Physiology has been introduced, theoretical and practical, but all those who have presented themselves for examination before June 1, 1937, need not take physiology. This concession lapses after March 1, 1940.

PHARMACEUTICAL CHEMISTRY

The history of Chemistry from 1750 A.D.

The principles of physical chemistry treated in an elementary manner with references to their pharmaceutical application, including the physico-chemical properties of gases, liquids and solids; equilibria and the law of mass action; catalysis; thermo-chemistry; the properties of dilute solutions; osmosis; molecular weight determinations; colloidal state; adsorption and absorption; electrical conductivity; ionisation; hydrolysis; strength of acids and bases; indicators; the determination and significance of ph values; refractivity; optical rotation; surface tension and viscosity; boiling points and boiling ranges; distillation of liquid mixtures. The general principles of inorganic chemistry with particular reference to those elements and compounds in frequent use in pharmacy; their preparation, properties and purification for pharmaceutical use. The general principles of organic chemistry involving the main types of carbon compounds extended by a more detailed treatment of those compounds in frequent use in pharmacy and including the fixed oils and fats, waxes; soaps; glycosides; ureides and urethanes; heterocyclic compounds and the characters, methods of extraction, preparation and purity of the important alkaloids; purines; proteins; alicylic compounds, terpenes and the more important constituents of essential oils and related products; medicinal dyes, organometallic compounds; the crystallisable hormones and vitamins; synthetic drugs. The principles of qualitative analysis of chemical substances and the chemical assay processes of crude drugs and pharmaceutical preparations. Pharmaceutical standards of purity and chemical tests of conformity therewith.

PRACTICAL EXAMINATION

The candidate will be required to show practical familiarity with the common methods of experiment, including the fol-

lowing and their application to substances in frequent use in pharmacy:—

The preparation of inorganic and organic compounds. The identification, or reference to class, of substances in the pure state or in admixture; the detection and identification of the impurities which they may contain. The determination of the physical constants used as criteria of purity. The quantitative analysis of inorganic and organic substances; the quantitative determination of the active constituents in drugs, pharmaceutical preparations, essential oils and other products that are amenable to chemical assay.

Chemistry from all parts of the old syllabus has been included; a comparison with previous layouts will show that the subject has been brought in closer touch with pharmacy and greater details given, but the margins are wide. The examination consists of two written sessions and two practical, and the usual custom to consult books in the practical remains, as well as bringing laboratory books.

PHARMACEUTICS

The principles involved and the apparatus used in pharmaceutical operations in general use by practising pharmacists and by manufacturers. The preparation of medicated surgical dressings. The candidate will be required to have such a knowledge of French or German as will enable him, with the aid of technical dictionaries, to translate into English passages from either French or German pharmacopæias.

The syllabus and examination in pharmaceutics harmonises with that of the Chemist and Druggist examination. The dispensing of medicines could be finished in the first year, which would ease the stress of the final examination. The syllabus on pharmaceutics in the Chemist and Druggist course should be consulted, as only the following items are additional for the pharmaceutical chemist qualification. It illustrates how it will in future be easier to pass from the chemist and druggist qualification to that of Ph.C. if anyone is so desirous.

PRACTICAL EXAMINATION

The candidate must be prepared to conduct ordinary pharmaceutical operations, including the making of galenical preparations, the dispensing of prescriptions, the detection of unusual doses, and the completion of his preparations in a proper manner; to prepare sterile solutions, to perform tests for sterility; to prepare bacterial vaccines, including the enumeration of organisms in a suspension.

Pharmacognosy

The change in this subject is due to an attempt to modernise it, and it follows the lines shown in the Chemist and Druggist examination with the additions set out below: one written session is planned, and two practical replace the former single session.

To prepare for microscopical examination of the following crude drugs, to describe their structure, to identify and describe their powers and to detect adulteration in them:—

Coriandrum	Lobelia
Creta	Myristica
Digitalis Folium	Nux Vomica
Ergota	Quassia
Fœniculum	Rheum
Gentiana	Scilla
Glycyrrhiza	
	Sennæ Folium
	Stramonium
	Tragacantha
	Zingiber
	Creta Digitalis Folium Ergota Fæniculum

The methods used for the microscopical examination of crude drugs, including the isolation and identification of tissues and cells. Micro-chemical tests for tissues and cell contents. Microscopical measurements.

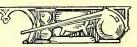
The evaluation of crude drugs.

PRACTICAL EXAMINATION

The candidate must be prepared:—

To recognise crude drugs in frequent use in pharmacy.





Physiology

The first examination on this subject was in July 1936, and consisted of one written paper and one practical. The material set out below is in addition to that given under the Chemist and Druggist examination. It should be noted that some pharmacology is introduced here, and there is one session of practical work in the examination.

The enumeration of red cells.

The nervous control of the heart and the function of the carotid sinus.

The control of the blood supply to the organs of the body. The mechanism of respiration and its control; action of vagus; the effect of (a) oxygen, (b) carbon dioxide, (c) nitrogen, and (d) carbon monoxide.

The physiology of the skin, loss of heat and sweating; the kidney including the chemistry of urine. Detection and estimation of principal, normal and abnormal constituents.

Nerve cells and fibres. The synapse. Spinal reflexes. Func-

Nerve cells and fibres. The synapse. Spinal reflexes. Function of medullary centres. Effect of removing the cerebrum. Motor cortex and pyramidal tracts. Function of corpus striatum. General arrangement of fibres entering and leaving the spinal cord, including the sympathetic chain and the peripheral connexions of the vagus and sympathetic nerves.

The physiology of mammalian reproduction including the implantation of the fertilised ovum and the function of the

placenta.

The action of the following drugs:—chloroform, ether, alcohol, bromides, hyoscine, atropine, morphine, strychnine, caffeine, digitalis, nitrites, acetylsalicylic acid. The general mode of action of bitters, purgatives, emetics and expectorants, astringents, antacids.

PRACTICAL EXAMINATION

The candidate must be prepared:

To recognise and describe with diagrams, microscopic preparations of any tissues or organs mentioned in the foregoing syllabus. To show his acquaintance with the methods employed for the demonstration of fundamental physiological processes, as laid down in the foregoing syllabus, and to carry out such chemical manipulations or simple experiments as are comprised therein.

FORENSIC PHARMACY

In this subject there is no variation from the requirements in the Chemist and Druggist examination.

Diploma in Biochemical Analysis

A diploma is granted by the Pharmaceutical Society in this subject after a systematic course and subsequent examination. The fee for the examination is £5 5s.; the examination is held in London and Edinburgh in April of each year, the last day of entry being March 1. The period for an approved course of instruction extends over three months, or a part-time course over six months. Proof must be given of the training. Usually the lectures, followed by practical work, are given in the evening. The examination consists of a three-hours' written paper, two three-hours' practical work, and a short oral. Original laboratory notebooks must be available for inspection. The syllabus gives the details of the chemical examination of urine, blood and cerebrospinal fluid; milk analysis, gastric analysis, analysis of fæces; principles of basal metabolism with metabolism experiments; renal efficiency tests; blood-sugar curves; acidosis and alkalosis; chemical tests of efficiency of liver and bile passages and pancreatic efficiency. Training takes place at 17 Bloomsbury Square (under G. A. Harrison, M.D.), and at Chelsea Polytechnic (under H. E. Archer, M.R.C.S., F.I.C., Ph.C.); and in Glasgow and Manchester. Candidates must be members of the Pharmaceutical Society.

Diploma in Pharmaceutical Analysis

The D.P.A.Pharm.Soc. is awarded after a course of training in pharmaceutical analysis. Part I extends over one academic year in the case of a day course or two years in case of partime or evening. Part II includes not less than two years in a pharmaceutical analytical laboratory. The places for training must be approved. The examination takes place in London in July and the fee is £5 5s. Candidates must be members of the

Pharmaceutical Society who were registered as pharmaceutical chemists not later than the third year prior to the year of entry. The syllabus includes chemical analysis; physical methods applied to apparatus; examination of drugs and galenicals; disinfectants; infants' foods; water; urine; writing of reports; general knowledge of legal requirements governing the sale of drugs, medicines and poisons. There are special regulations which only apply to persons registered before February 1, 1933, giving concessions in suitable cases for the elimination of routine systematic training.

University Examinations in Pharmacy

LONDON

In order to be admitted to a degree of B.Pharm., London, either as an internal or external student, candidates must (1) matriculate in one of the ways provided by the regulations, (2) pass the Intermediate examination in science, (3) have followed an approved course of study under recognised teachers of the University and in approved institutions. The fee for each examination is £6 6s. Application for copies of the regulations should be made to the Academic Registrar, University of London, South Kensington, S.W.7, or for an external student to the External Registrar.

The Intermediate examination of the University for external and internal students is set in two papers and a "practical" in each subject. Chemistry includes methods which lead to the discovery of the composition of common natural materials; determination of molecular weights, chemical laws and processes. In the practical: Quantitative, gravimetric, and volumetric work. Notebooks must be available for inspection by the examiners.

In Physics: The properties of solids, liquids and gases; principles of heat, sound and light, and the properties of magnetism and electricity.

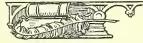
Botany: Characteristics of angiosperms, gymnosperms, and specified natural orders. Pteridophyta, bryophyta, algæ and fungi, together with elementary physiology. In the practical will be included dissection and examination of parts of plants.

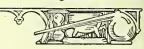
Zoology: The fundamental facts and laws, including specified types. General organisation of types, biological laws, structural phenomena, reproduction and diagnostic characteristics of lower forms of life. In the practical: Parts of the animals selected will require description, and some dissection is expected.

Biology: This is an alternative subject to zoology. It includes the differences between living and non-living matter; cells, integration, differentiation and division of labour. Enzyme action, transformation of energy in living matter; nutrition, stimulus, response, movement, chemical co-ordination and general mechanisms. Reproduction; embryo and heredity. In the practical: Appropriate physiological experiments, dissection, microscopy and elementary embryology.

The B.Pharm. degree Final examination is the same for external as for internal students, covering botany, chemistry, pharmacognosy, and pharmacy, and is set out in the syllabus for the Pharmaceutical Chemist qualification, minus forensic pharmacy. The degree cannot be taken until three years after matriculation. Changes in subjects and times as set under the Pharmaceutical Chemist Qualifying examination will operate at the same time, and doubtless will affect the other universities giving a qualification in this subject. The syllabus in the Ph.C. is drawn up by mutual agreement between University of London representatives and the Pharmaceutical Society.

A degree granted by the University does not entitle to registration by the Pharmaceutical Society, but regulation 29 provides that any registered apprentice or student who has served the period of practical training and produces to the registrar a notification of having passed the Final examination for the degree of bachelor of pharmacy of the University of London, or a corresponding degree of any other University approved by the Pharmaceutical Society's Council, shall be





deemed to have passed the Pharmaceutical Chemist Qualifying examination in the subjects set out on the final certificate, and shall be entitled to enter the examination of the Society in forensic pharmacy and, on passing, be entitled to registration.

Manchester

In Manchester, for the B.Sc. (Pharm.) degree, candidates must first pass the University Matriculation examination or its equivalent, which examination should include mathematics and mechanics. They should then attend courses in chemistry, physics, botany and zoology, and present themselves for the Intermediate examination in these subjects at the end of the first year. Candidates who have offered mathematics in place of zoology attend a short three-months' course in zoology in the second year. Candidates before proceeding to the Final examination must present certificates of having attended satisfactorily during the second and third years approved courses in chemistry, botany, pharmacognosy, pharmaceutics and pharmaceutical chemistry, physiology, and short courses in bacteriology and in methods of biological assay. They must also present satisfactory evidence that they can read scientific literature in German by passing a language test in this subject. They are required to pass the Final examination in the subjects of botany and pharmacognosy, chemistry and pharmaceutical chemistry, physiology, and pharmaceutics. This degree is accepted by the Pharmaceutical Society in lieu of the Ph.C. Qualifying examination except in the subject of forensic pharmacy. The cost of a degree course varies with the subjects chosen and with the nature of the degree, but the average fees for an ordinary B.Sc. degree course amount to \$\frac{1}{2}\$ a session. Full particulars may be obtained from the Pharmaceutical Department, University of Manchester.

GLASGOW

In Glasgow, candidates must first pass the Preliminary examination. In not less than three academic years they must attend courses of Instruction at the University or the Royal Technical College, and must have been "practically engaged in the operations of pharmacy." The regulations may be obtained from Jackson, Wylie & Co., 73 West George Street, Glasgow.

BELFAST

The Queen's University confers the degree of B.Sc. in Pharmaceutics. Students desiring further information should apply to the Registrar of the University.

Teaching Institutions

Schools and institutions recognised by the Pharmaceutical Society for the preparation of students for the Preliminary Scientific examination or for the Chemist and Druggist Qualifying and Pharmaceutical Chemist qualifying examinations, or for all three, are to be found in the following centres:—

ENGLAND AND WALES

LONDON

The College of the Pharmaceutical Society University of London

17 Bloomsbury Square, W.C.1

Dean: Professor J. H. Burn, M.A., M.D. The course for the Chemist and Druggist examination begins on October 2; fee for the course, £47 12s. 6d. The two years' course for the B.Pharm. and Pharmaceutical Chemist examination begins on October 2; fee, £47 12s. 6d. for each year. The above fees include subscriptions to the Students' Association and the University of London Union. Students will be given special instruction in methods of sterilisation and in the preparation and testing of biological products. They will have opportunity to see the work of the pharmacological laboratories. A course of instruction for the examination for the Diploma in Bio-Chemical Analysis will be given on two evenings weekly from October to April; fee, £10 10s. Inquiries should be addressed to the Dean.

Chelsea Polytechnic School of Pharmacy

Manresa Road, Chelsea, S.W.3

Principal: F. J. Harlow, M.B.E., Ph.D., B.Sc., A.R.C.S. The School of Pharmacy includes modern and well-equipped laboratories for the teaching of practical pharmacy, pharmacognosy, pharmaceutical chemistry, pharmaceutical research, and large-scale galenical manufacture. Day courses for the Preliminary Scientific, Chemist and Druggist, Pharmaceutical Chemist, and Bachelor of Pharmacy examinations commence on September 21, the fee for a full-time day course being £8 per term or £21 per session. Matriculated students may attend B.Pharm. courses as internal or external students of the University of London. Short courses in business practice will also be held during the session. Prizes are presented annually to the most successful students in each course, and various scholarships are awarded. Full particulars from Secretary, Chelsea Polytechnic, S.W.3.

Gordon Hall School of Pharmacy for Women

Drayton House, Gordon Street, W.C.I

Courses of training in pharmacy and dispensing. Particulars from Principals.

London College of Pharmacy

361 Clapham Road, S.W.9

Principal: Irvine G. Rankin, B.Sc., Ph.C. Nine, six and three months' courses for the Preliminary Scientific and Chemist and Druggist Qualifying examinations. Evening classes: Tuesday, Wednesday and Thursday. Courses of preparatory study by post can be taken by apprentices and juniors at any time before entering College. Large botanical and herb garden. Session commences October 7.

Norwood Technical Institute

Knight's Hill, West Norwood, S.E.27

Principal: L. N. Coombs, B.Sc., A.I.C. Full-time day course and day and evening part-time courses for Preliminary Scientific, inter. B.Pharm, and pre-medical examinations. Also classes in organic chemistry suitable for pharmacy students. Session commences September 21. Fee: Full-time course, £5 per term (London students); part-time classes, from 7s. 6d.

The South of England College of Pharmacy

186 Clapham Road, S.W.9

Principal: H. Lucas, Ph.C., F.C.S. Six months' course for the Preliminary Scientific examination, fee twenty guineas. Nine months' course for the Chemist and Druggist Qualifying examination, fee thirty guineas. Revision course for October examination commencing in July. A "once-a-week" class (Preliminary Scientific only) held each Wednesday, fee £2 2s. per term.

Wandsworth Technical Institute

High Street, Wandsworth, S.W.18

Day and evening classes in chemistry, physics and botany. Sessional fee, over twenty-one years of age, 30s.; under twenty-one. 15s.

West Ham Municipal College

Principal: T. C. Baillie, M.A., D.Sc. Evening courses for the Preliminary Scientific examination, commencing September 21. Fees, West Ham, East Ham, Middlesex and London students, \sharp_1 per session. Others, \sharp_2 .

Westminster College of Pharmacy

190 Clapham Road, London, S.W.9

Principal: P. H. Woodnoth, Ph.C., F.C.S. Tuition for Preliminary Scientific and Qualifying examinations. Revision course for September examinations commenced on August 5. Fee, 21s. per week. The 1936-37 session commences on October 7, and arrangements are made for revision, six and nine months' courses for the Preliminary Scientific and revision and nine months' courses for the Chemist and Druggist





Preparatory and revision corre-Qualifying examinations. spondence courses are available.

Wimbledon Technical College

Gladstone Road, S.W.19

Classes for Preliminary Scientific examination. Session commences September 21, 1936. Particulars from Registrar.

Woolwich Polytechnic

Woolwich, S.E.18

Principal: E. Mallett, D.Sc., M.I.E.E., A.M.Inst.C.E., F.Inst.P. Approved by the Pharmaceutical Society for the Preliminary Scientific examination. Particulars from the Secretary.

PROVINCES

Aberystwyth University College of Wales

Principal: Ifor L. Evans, M.A. (Cantab.). Courses in chemistry and botany adapted to the requirements of candidates for examinations of the Pharmaceutical Society. Prospectus from the Registrar.

Barnsley Technical College Principal: D. Paton Grubb, B.Sc. (Edin.), M.Eng. (Sheff.) A.R.S.M. Recognised for the Preliminary Scientific examination. Full-time course, five days a week, one session, fee £15 15s. Part-time course, one whole day per week, £3 3s. Additional evening or day instruction in chemistry, physics

Barrow-in-Furness Technical College

Evening classes in chemistry, September to April. Fees: 7s. 6d. to 15s. Day and evening courses for apprentices, September to July. Fees: Course, including chemistry, physics and botany, £3 3s.

Birmingham Central Technical College

Principal: D. S. Anderson, Ph.D., B.Sc., M.I.Mech.E., M.I.A.E. Head of Pharmacy Department: E. G. Bryant, B.Sc., D.Pharm., Ph.C. Full-time courses for the Preliminary Scientific, Chemist and Druggist Qualifying and Pharmaceutical Chemist Qualifying examinations of the Pharmaceutical Society, and for the Intermediate Pharmacy and Final B.Pharm. examinations of the University of London. Parttime courses for the Preliminary Scientific and Intermediate time courses for the Preliminary Scientific and Intermediate examinations. Medals and prizes awarded in all the subjects of each course. Courses commence on September 21. Full particulars on application to the Principal, Technical College, Suffolk Street, Birmingham, 1.

Birmingham (Handsworth) Technical College

Principal: A. Robson, B.Sc., B.Com., M.I.Mech.E. Special courses for apprentices, also for professional preliminary examinations. Fees: Evening—Chemistry, physics and botany, IIs. 6d. per session. Day—One half-day per week, fi is. per session; two half-days, fi iis. per session; additional half-days, fi per session. Students under eighteen years of age, reduced fee of fi is. per session for two half-days per week (additional half-days per session). (additional half-days as above).

Bolton Municipal Technical College

Principal: J. W. Simpkin, M.Sc. Recognised for Preliminary Scientific examination. Fees: Chemistry courses, 5s. to 15s. per session; pharmacy courses, £2 2s.

Bournemouth Municipal College

Principal: C. E. Walker, M.A., B.Sc. Recognised for Preliminary Scientific examination. Day classes, fee £6 6s. per term; reduced fees for part time. Evening classes.

Bradford Technical College

Principal: H. Richardson, M.Sc. Head of Department of Pharmacy: F. N. Appleyard, B.Sc. (London), Ph.C., F.I.C. Lecturer in Pharmaceutical Chemistry: C. G. Lyons, M.A. (Cambridge), Ph.D. Lecturers in Pharmacy: A. T. Moorhouse, B.Pharm., Ph.C., and J. W. Cooper, Ph.C. Lecturer on Vaccines and Serums: M. A. C. Buckell, M.B., B.S.,

D.P.H. Recognised for the Preliminary Scientific, Chemist D.P.H. Recognised for the Freinmary Scientific, Chemist and Druggist Qualifying and Pharmaceutical Chemist Qualifying examinations, and by the University of London for the B.Pharm. degree. Evening course for the Pharmaceutical Society's Diploma in Biochemical Analysis. Post-graduate evening courses in microscopy of food and drugs and methods of sterilisation. Registration commences on September 14 for evening courses and on September 23 for day courses.

Brighton Technical College

Head of the School of Pharmacy: H. B. Mackie, Ph.C., B.Pharm. Full-time courses for the Preliminary Scientific, the Chemist and Druggist Qualifying, the Pharmaceutical Chemist Qualifying and B.Pharm. examinations. Fee for any day £24 for a session, or £9 per term. Separate laboratories for dispensing pharmaceutical chemistry, galenical pharmacy and pharmacognosy. Applications for admission should be made as early as possible to the Principal.

Bristol Merchant Venturers' Technical College

Principal: Andrew Robertson, D.Sc. Head of Pharmacy Department: D. J. Williams, B.Sc., Ph.C., Barrister-at-Law. Full- and part-time courses for the Preliminary Scientific, Chemist and Druggist Qualifying and (if warranted) Pharmaceutical Chemist Qualifying and B.Pharm examinations.

Cardiff Technical College

Principal: Charles Coles, O.B.E., B.Sc. Head of Welsh College of Pharmacy: Rees Vernon Lloyd, B.Pharm. (Lond.), Ph.C. Day courses for Preliminary Scientific and Chemist and Druggist Qualifying examinations, commencing in October. Two years' course for Pharmaceutical Chemist Qualifying examination, and three years' course for B.Pharm. (Wales) degree. Fee for each course (October to July), £20. Parttime course for Diploma in Biochemical Analysis (held at Welsh National School of Medicine): fee, £10 10s. Open scholarships (tenable for three years) are offered by the College Committee.

Darlington Technical College

Principal: J. W. Angles, M.Sc., M.I.Mech.E. Evening pharmacy course. Fees: 20s. Recognised for Preliminary Scientific examination.

Derby Technical College

Principal: W. A. Richardson, O.B.E., B.A., D.Sc., B.Sc. (Eng.). Day and evening classes. Fees: Full-time course, £3 3s. per term; part-time day courses (one day per week and evening), £1 1s. per session inclusive. Recognised for Preliminary Scientific examination.

Exeter University College

Day and evening classes for the Preliminary Scientific examination.

Halifax Municipal Technical College

Principal: B. R. Heasman, M.Sc. (Lond.), A.I.C. Instruction for Preliminary Scientific examination. Fee for part-time day and evening course, £1 10s. Application has been made to the Pharmaceutical Society for the recognition of a fulltime day course of instruction under the new regulations.

Harrogate Technical School

Principal: W. E. C. Jalland, M.Sc. Recognised for Preliminary Scientific examination. Evening classes. Fees: £1 per session.

Huddersfield Technical College

Principal: J. F. Hudson, M.A., B.Sc. Full- and part-time courses for Preliminary Scientific examination and for inter B.Pharm. examination. Fee: full time, £12 12s. a session; part time, £3 3s.

Hull Municipal Technical College

Head of Chemistry Department: L. Balmforth, B.Sc., F.I.C. Recognised for the Preliminary Scientific examination. Classes in inorganic, organic and physical chemistry, physics, botany and materia medica. Courses in materia medica and dispensing





for students who have already passed the Preliminary Scientific examination and wish to continue their studies before taking their final at the selected college.

Kingston-upon-Thames Technical College

Head of Pharmacy Department: H. P. Starck, M.A. (Cantab.), Hon. Natural Science Tripos C.T.D. Full time day, part time day, and evening classes for the Preliminary Scientific and inter. B.Pharm. examinations. Fee for day session, £15; for part time day session, £5; for evening session, £1 ios. Day students may take additional evening lectures without further fee. Pharmaceutical chemistry is taken on Wednesday afternoons and botany or physics (heat and light) on Thursday afternoons at an additional fee of £1 per session per half-day for evening students. New session commences September 21.

Lancaster, Storey Institute Technical College

Pure and Applied Chemistry Departments, Headmaster: F. H. Mould, B.Sc., A.R.C.Sc. Day and evening courses recognised by the Pharmaceutical Society.

Leamington Technical School

Recognised for the Preliminary Scientific examination. Botany, Mondays; Chemistry, Wednesdays; Physics, Fridays.

Leeds College of Technology

Principal: J. H. Everett, B.Sc. Day course for the Preliminary Scientific examination. Fee: £18 18s. per session Part-time day courses from £3 3s. per session. Evening courses from 10s. to 42s. per session.

Leeds University

Courses of study for the Chemist and Druggist Qualifying and the Pharmaceutical Chemist examinations commence on October 1. Fee: £31 10s. per session. Candidates for the Preliminary Scientific examination are admitted to the Science Degree courses in the required subjects.

Leicester College of Technology

Head of the Department of Pharmacy: A. R. G. Chamings, B.Pharm., Ph.C. A scheme of collaboration with the Leicester Royal Infirmary exists whereby full-time students in the C. and D., Ph.C. and B.Pharm. courses work in the dispensaries of this institution; in addition Ph.C. and B.Pharm. students receive practical training in the preparation of vaccines, etc., in the Pathological Laboratory. Classes in business practice and serology are included in the C. and D. timetable. Evening courses are available to all full-time students without further fee in photography, surgical appliances, etc., and first-aid. A one-year course for Ph.C. and B.Pharm. is provided for those who have passed the C. and D. examination (or reached C. and D. standard).

Leicester, The Wyggeston Grammar School

Headmaster: T. Kingdom, M.A. Recognised for Preliminary Scientific examination; three-term session from September to July. Fee, £18 18s. for the session.

Liverpool, City Technical College

Principal: R. R. Butler, M.Sc., F.I.C., F.C.S. Courses for the Preliminary Scientific examination. Fees (three afternoon or evening classes weekly): £1 to £2. Full particulars from the Principal.

Liverpool School of Pharmacy

Principal: H. Humphreys Jones, F.I.C., F.C.S., Ph.C. Preparation for the Preliminary Scientific and Qualifying Chemist and Druggist examinations. Revision course for the October examinations commenced August 5. Six months' and nine months' courses for the Preliminary Scientific examination and nine months' course for the Qualifying examination commence on October 5.

Manchester University

Senior Lecturer in Pharmacy: H. Brindle, B.Sc., F.I.C., Ph.C. Courses for the Chemist and Druggist and Pharmaceutical Chemist Qualifying examinations. Three years' course

for the B.Sc. degree in Pharmacy. A part-time course is held on Wednesdays for the Pharmaceutical Society's Diploma in Biochemical Analysis. Particulars from the Registrar or the Senior Lecturer in Pharmacy.

Newcastle-upon-Tyne, Armstrong College, University of Durham

Pharmacy students admitted to classes in chemistry, physics and botany. Fees from \pounds_{25} per annum, exclusive of subscriptions to societies, etc.

Norwich Municipal Technical College

Principal: R. W. Howes, M.Sc., Ph.D., F.R.A.I. Recognised for Preliminary Scientific examination. Combined day and evening courses. Also part time courses in Chemistry and Pharmaceutical Latin for those who have passed the Preliminary Scientific examination. Session opens September 18. Fees, £1 to £5 5s. per session.

Nottingham University College

Head of School of Pharmacy: A. O. Bentley, Ph.C. Fulltime day course for Chemist and Druggist examination; fee, £31 15s. Two-year course for B.Pharm. and Ph.C. examinations; fees, £31 15s. each session. Five days per week course for one year for Preliminary Scientific examination; fee, £26 10s. Course for Pharmaceutical Society's Diploma in Biochemistry (four half-days per week); fee, £10 10s. for two terms.

Oxford City Technical School

Recognised for the Preliminary Scientific examination. Evening courses in chemistry, physics and botany, extending over four years. Inclusive fee per session, 20s. Special course in organic chemistry, 10s.

Plymouth and Devonport Technical College

Principal. A. R. Boeree, M.A., B.Sc. (Oxon.), F.I.C. Part-time courses for Preliminary Scientific examination held three afternoons or evenings each week. Fee, £4 per session. Full-day courses for registered students. Fees, £18 15s. to £25.

Portsmouth Municipal College

Principal: Leonard B. Benny, M.A. (Cantab.), B.A. (Lond.). Approved under the regulations of the Pharmaceutical Society and the London University. Classes commence on September 14. Fees: Full-time courses, £15 15s. for Portsmouth residents, £21 for others.

Preston, Harris Institute

Affiliated to the Universities of Manchester and Liverpool. Full-time day course for the Preliminary Scientific examination. Session begins in September. Fees: £9 10s. per session for the three subjects or £3 3s. 4d. per term. Full-time day course for inter. B.Sc. in science or engineering. Evening courses in chemistry, physics, biology and mathematics for inter. and final B.Sc., etc.

Salford Royal Technical College

Principal: John A. Hartley. Recognised for Preliminary Scientific examination. Full-time day course; fee, £10 10s. per session. Part-time day and evening classes under the old regulations; fees, day, £3 3s.; evening, 15s. to 25s. per session.

Sheffield Central Commercial College

Principal: W. B. Marshman. Recognised for Preliminary Scientific examination. Evening classes. The course extends over three years, the fees being: first year, 17s. 6d., second year, 20s., third year, 22s. 6d.

Southampton University College

Professor of Chemistry: D. R. Boyd, D.Sc., Ph.D., F.I.C. Recognised for the Preliminary Scientific examination. Details of courses and fees from the Registrar.





Stockport College for Further Education

Full-time day course for the Preliminary Scientific examination and part-time day courses for second and third year students. Principal: G. Wood, M.Sc.

Sunderland Technical College

Principal: E. R. Verity, B.Sc., A.R.C.Sc. Head of Pharmacy Department: Miss H. C. M. Winch, Ph.C., A.I.C. Fulltime day courses recognised for Preliminary Scientific, Chemist and Druggist and Pharmaceutical Chemist Qualifying examinations and for the Pharmaceutical Society's Diploma in Biochemistry. Recognised by the University of London for B.Pharm. Fee: £20 per session for full-time course.

Swansea Municipal Technical College

Preparatory part-time and nine months' full-time courses for the Preliminary Scientific examination.

Wigan and District Mining and Technical College

Principal: F. J. S. Ross, M.C., B.Sc., Ph.D. One-year course for the Preliminary Scientific examination. Fee: £10 10s. per session.

Wolverhampton and Staffordshire Technical College

Principal: W. E. Fisher, D.Sc. Full-time course, September to July; part-time course, September to April, followed by short summer session.

SCOTLAND

Aberdeen, Robert Gordon's Technical Colleges

Pharmacy: James E. Bowen, B.Sc., Ph.C., A.I.C., B.Pharm., Ph.C. Day courses: Preliminary Scientific, Chemist and Druggist Qualifying, and Pharmaceutical Chemist Qualifying examinations, and Intermediate and Final examinations for the Degree of Bachelor of Pharmacy of the University of London. Fees: Each course, £21. Evening course over four years, fees, 1st stage, £1; 2nd stage, £1 5s.; 3rd stage, £1 10s.:

Dundee Technical College

Head of Pharmacy Department: D. McCall, B.Sc., Ph.D., Ph.C., F.L.S. Students prepared for all examinations of the Pharmaceutical Society and for B.Pharm. of London University. Classes begin September 21. Preparatory evening classes in botany and chemistry, on September 7. Fees: Day classes, £22 Is.; evening classes, £1 to £1 Ios. per session.

Edinburgh, Heriot-Watt College (incorporating The Royal Public Dispensary School of Pharmacy)

Full-time courses for the Preliminary Scientific and Chemist and Druggist Qualifying examinations begin on October 13. Under an agreement between the managers of the Royal Public Dispensary and the Governors of the Heriot-Watt College, the School of Pharmacy of the Royal Public Dispensary is incorporated in that of the College. Principal: J. Cameron Smail, O.B.E.

Glasgow Royal Technical College

Classes for the Preliminary Scientific, Chemist and Druggist Qualifying and Pharmaceutical Chemist Qualifying examinations, for the degree of B.Sc. (Pharm.), and for the Pharmaceutical Society's Diploma in Biochemical Analysis begin on September 22. Degree course, ninety guineas, in four annual instalments of twenty-two and a half guineas; other day courses, twenty-five guineas per annum.

Paisley Technical College

Principal: Lewis F. Richardson, D.Sc. (Lond.), F.R.S. Recognised for Preliminary Scientific examination. Day and evening classes.

Dispenserships

Official positions as dispensers or "pharmacists" are open to pharmacists as follows:—

LONDON COUNTY COUNCIL (EXCLUDING MENTAL HOSPITALS).—For full-time officers the annual scales of salary are as follows:—

(a) Pharmacist Scale A, £400—£20—£500; Pharmacist Scale B, £325—£12 10s.—£375; Pharmacist Scale C, £250—£10—£300. (b) Pharmacist acting as assistant to another pharmacist, £225—£10—£275. (c) Assistant dispenser (unregistered), £175—£10—£225. In all future appointments—

(a) Only persons who are registered as pharmaceutical chemists or as chemists and druggists are eligible for appointment as pharmacists in the hospitals, institutions or district dispensaries.

(b) An unregistered dispenser, an articled pupil or an apprentice is eligible for employment only in those hospitals, etc., where there are authorised positions for dispensing staff in addition to two pharmacists. Fuller particulars in a leaflet issued by the Council.

London County Council (Mental Hospitals).—The rates of pay for pharmacists in mental institutions controlled by the London County Council are as follows:—Large London County mental hospitals (men and women).—£270 a year, rising by £15 annually to £405. The Manor, Epsom, and The Maudsley hospital (women).—£220 a year, rising by £10 annually to £250, thence by £12 ros. annually to £300. Caterham and Leavesden mental hospitals, Darenth training colony and Tooting Bec hospital (men and women).—£250 a year, rising by £12 ros. annually to £350.

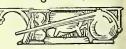
Navy.—The Pharmaceutical Service consists of the following grades:—(a) Head pharmacist; (b) superintending pharmacists; (c) senior pharmacists; (d) pharmacists. The age of pharmacists on entry must not be less than twenty-one nor more than twenty-eight years. Candidates must possess certificates that they hold either the Major or the Minor qualification of the Pharmaceutical Society of Great Britain or the certificate of competency granted by the Pharmaceutical Society of Ireland, and produce testimonials and a full record of training, qualifications and experience. Successful candidates are required to satisfy the Civil Service Commissioners as to their health and character and to pay a fee of £3 before the issue of the certificate of qualification for appointment. They are included in the list of salaried officers and will be entitled to pension. Pharmacists are paid a salary of £178 per annum, on entry, rising by £10 annually to £252. They are also provided with quarters suitable for unmarried men. When such quarters cannot be provided, an allowance of £49 a year will be granted in lieu. When they are resident within the precincts of a naval hospital they will be allowed to buy certain articles of provision and fuel at contract rates. Pharmacists are eligible, subject to the existence of vacancies, and to their being recommended, for promotion to the grades of senior, superintending and head pharmacist. The scale of salary for senior pharmacists is £265—£12—£349, together with quarters or an allowance of £49 a year in lieu. Further particulars are given in the official regulations.

Public Assistance Institutions.—Appointments of dispensers under the old poor-law service are now made by boroughs or county councils (other than the London County Council, for which see above). Under the Poor Law Order of 1930 such dispensers are not included in the list of principal officers. The salaries vary.

Prison Commission.—Candidates for appointment must be between twenty-four and thirty-five years of age, and must hold the qualification of the Pharmaceutical Society of Great Britain as chemist and druggist or pharmaceutical chemist. The scale of pay begins at £200 per annum, proceeding by annual increments to £325 per annum. For further information apply to the Prison Commissioners, Home Office, London, S.W.I.

SHIPPING SERVICE.—The descriptive article in The Chemist and Druggist Annual Special Issue of June 27, 1936 (p. 736), should be consulted.





reland—I. Free State

The chief enactments governing the practice of pharmacy in the Irish Free State are the Pharmacy Act (Ireland), 1875, the Pharmacy Act (Ireland), 1875, Amendment Act, 1890, and the Sale of Poisons (Ireland) Act, 1870. Particulars of these Acts, so far as the sale of poisons is concerned, and of the Dangerous so tar as the sale of poisons is concerned, and of the Dangerous Drugs Act, 1920, are given in each annual issue of *The Chemist and Druggist Diary*. The Act of 1875 set up a class of qualified persons, pharmaceutical chemists, to keep open shop for retailing, dispensing and compounding poisons and medical prescriptions. The amending Act of 1890 brought into existence chemists and druggists and registered druggists on a statutory basis, and introduced a qualification for assistants to pharmaceutical chemists enabling them to transact the ants to pharmaceutical chemists enabling them to transact the business of a shop during their employers' temporary absence. The Saorstat Eireann Juries Act, 1927, conferred on registered pharmaceutical chemists actually in business exemption from

Service on juries. The Irish Pharmacy Acts, 1875 and 1890, differ from the corresponding Acts for Great Britain in that mention is made of the sub-jects in which candidates for the Licentiate and the Registered Druggist qualification are to be examined—with the addition, in the earlier Act, of such other subjects as may from time to time be prescribed by any regulations made in pursuance of this Act.'' The Registrar and Clerk to the Council of the Pharmaceutical Society of Ireland is Mr. James J. Kerr, P.C., M.P.S.I., 67 Lower Mount Street,

Preliminary Examination

This examination must be passed prior to the service in pharmacy required by the Regulations for the Licence examination, unless such service has been commenced before January 1, 1907. The Preliminary examination has been suspended for a period of ten years from January 1, 1935. The Matriculation examination of the National University of Ireland will be accepted in lieu of the Preliminary examination provided that:—(1) A registration fee of £4 4s. shall be paid;

(2) the certificate must show that the candidate has passed in Irish, English, Latin and mathematics; (3) since October 1, 1934, candidates must also pass in chemistry and botany;
(4) Such certificate shall be registered with the Society within sixty days of the commencement of the apprenticeship.

Pharmaceutical Licence

The qualifying examination for pharmaceutical chemist in Ireland is that of Licentiate. The conditions to be fulfilled before entering upon the Pharmaceutical licence examinations

(a) After preliminary registration the person must serve four years as an apprentice or assistant with, and in the sole employment of, a pharmaceutical chemist, or a chemist and druggist of Great Britain, or an apothecary, or a firm of legally qualified pharmaceutical chemists, chemists and druggists of Great Britain, or apothecaries keeping open shop, and the candidate must spend the business day with his employer. (Provision is made for service with more than one employer, and, for those who have served four years with a chemist and druggist or registered druggist in Ireland, two years' further service with a pharmaceutical chemist or an apothecary suffices.)

(b) Attend courses of lectures in theoretical chemistry and in botany and materia medica, and a course of practical chemistry (after the lectures in theory) at one or other of the following approved in-

stitutions:

School of the Pharmaceutical Society of Ireland. Central Technical Institute, Waterford. Municipal Technical School, Drogheda.

Municipal Technical Institute, Limerick.
City of Dublin Technical Schools.
Queen's University, Belfast.
Üniversity College, Galway.
Royal College of Surgeons in Ireland, Dublin.
School of Physic, Trinity College, Dublin.
Crawford Municipal Technical Institute, Cork.
Central Technical Institute, Clonmel.
Municipal Technical Schools, Dundalk.
City of Galway Technical Institute. City of Galway Technical Institute. Crawford Municipal School, Cork. University College, Dublin. Trinity College, Dublin.

Some of these are approved for all the subjects, others for one or two subjects only.

Candidates entering for the Licence examination for the first time after October 1, 1933, must have attended a course of practical pharmacy of three months' duration in the Society's schools.

(c) The person must be twenty-one years of age.

(d) Declaration and certificates of the foregoing must be lodged with

the Registrar when the candidate applies for entry to the Licence examination.

The examination commences on the Monday following the second Tuesday of January, April, July and October, at 10 a.m., and is held in the Pharmaceutical Society's House, Dublin. Candidates must give notice of intention didates must give notice of intention to attend, to the Registrar, fourteen clear days before the date of examination, and this must be accompanied by a receipt of having paid the fee (fro ros.) into the Bank of Ireland to the credit of the Society. The necessary forms should be procured well in advance. The re-examination tee is £4 4s. The examination, which is written, practical and oral, is in the following subjects:—

BOTANY: Recognition of the principal indigenous plants used in medicine, their natural orders, and the characters of their several parts.

Materia Medica: Recognition of B.P.

drugs; their characters, active principles, sources, official preparations and adulterations.

Elementary CHEMISTRY: laws

AL ASSISTANT

t be twenty-one, nor have f instruction.

Book of Pharmaceutical Parmaceutical Practical Pharmaceutical Chemistry and physics, including equations. Recognition of B.P. chemicals, description of the processes by which they are obtained, qualitative analysis (including B.P. tests) and volumetric analysis, and a practical examination in these subjects. (The Council recommends "Text Chemistry" (Bentley and Driver).)

Practical Pharmacy: Translation of Latin prescriptions, detection of dangerous doses, and compounding and dispensing. Processes of making and recognition of B.P. non-chemical preparations, and an intimate knowledge of the Sale of Poisons (Ireland) Act, 1870; Arsenic Act, 1851; Poisons and Pharmacy Act, 1908; and D.D.A. Regulations. Act, 1851; Poisons and Pharmacy Act, 1908; and D.D.A. Regulations.

R.D.

1. Serve four years as assistant or apprentice.

2. Four years' apprenticeship in a pharmacy.

2. Pass Registered Druggist Examination.

PHARMACEUTICAL ASSISTANT

X:....

IRISH FREE STATE

PHARMACY QUALIFICATIONS

(IN BRIEF)

L.P.S.I.

1. Pass Recognised Preliminary before apprentice-

3. Courses, in an approved institution, of three months in (a) Theoretical Chemistry, (b) Botany and Materia Medica, (c) Practical Chemistry.

Pass Pharmaceutical Licence Examination after the age of twenty-one.

As for L.P.S.I., but need not be twenty-one, nor have taken courses of instruction.

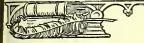
Assistants to Pharmaceutical Chemists

This examination, instituted as a qualification for assistants left temporarily in charge of the business of a pharmaceutical chemist, is held quarterly, being on the Thursday following the chemist, is held quarterly, being on the Thursday following the examination for the Pharmaceutical Licence. This permits candidates "referred" at the latter examination to enter for the assistants' examination on payment of a fee of £1 is. New candidates pay, in addition, a registration fee of £1 is. The candidates pay, in addition, a registration fee of £1 is. The characteristic fee is £1 is. The conditions are similar to those of the Licence examination, but the candidate need not be twenty-one years of age, nor have taken a special course of instruction. The subjects are:—

PRESCRIPTIONS: Candidates will be required to read autograph

Instruction. The subjects are:—
PRESCRIPTIONS: Candidates will be required to read autograph prescriptions, translate them into English, render a correct translation of the directions for use, and detect unusual doses.
PRACTICAL DISPENSING: To weigh, measure and compound medicines, write the directions in suitable language, finish and properly direct each package.

MATERIA MEDICA AND QUALITY OF SPECIMENS: To recognise the Pharmacopæia chemicals in frequent demand, and specimens of roots, barks, leaves, fruits, resins and gums in ordinary use; also to estimate the quality of each specimen submitted, and its freedom from adulteration. adulteration.



NORTHERN IRELAND

PHARMACY QUALIFICATION

(IN BRIEF)

PHARMACEUTICAL CHEMIST

1. Pass recognised Preliminary Examination.

Serve apprenticeship (a) four years under pharmaceutical chemist or (b) four years under registered druggist and two years under pharmaceutical chemist.

Pass Part I (a) Botany, (b) Chemistry, (c) Physics, (d) Business Methods. Fee £4 4s.

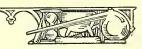
6. Pass Pharmaceutical Chemist Examination

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at age of twenty-one (a) Chemistry (2), (b) Pharmacognosy, (c) Pharmacy, (d) Practical Pharmacy, (e) Latin, (f) Pre-scription-Reading. Fee £8 8s.

3. Attend approved courses in Part I.

5. Attend approved courses in Part II.



PHARMACY: To recognise the preparations of the Pharmacopœia which are not of a definite chemical nature, such as extracts, tinctures and powders, and give the proportions of the more active ingredients.

The candidates will also be examined in the Sale of Poisons (Ireland) Act; Arsenic Act, 1851; Poisons and Pharmacy Act, 1908; and

D.D.A. regulations.

Registered Druggists

The subjects of the examination are prescribed by the Pharmacy Act (Ireland) Amendment Act, 1890, and are as follows:—

English orthography and composition.

Arithmetic and the weights and measures of the British Pharma-Copœia.

The appearance and properties of the various drugs and chemicals

The Sale of Poisons (Ireland) Act.

The examination is open to anyone who has served as an assistant or apprentice for not less than four years to a pharmaceutical chemist, chemist and druggist, registered druggist, or licentiate apothecary, keeping open shop, and is held in Dublin on the second Tuesday of January, April, July and October. Application for admission, accompanied by the necessary declarations of service and a receipt for £4 4s. placed to

the credit of the Society in the Bank of Ireland, must be made to the Registrar at least fourteen days before the dates of the examinations. The re-examination fee is £2 2s.

II--Northern Ireland Preliminary Examination

Pharmacy in Northern Ireland differs from pharmacy in Great Britain and in the Irish Free State in that the registered proprietors of retail businesses will all, eventually, be pharmaceutical chemists, the former class of registered druggists having either become pharmaceutical chemists since 1925 or having been registered under a provision which is not being continued permanently. The Pharmacy and Poisons Act (Northern Ireland), 1925, under which this change is taking also provided the state of the provision of the pr ing place, provided a modified examination for registered druggists who wished to qualify as pharmaceutical chemists; and many have thus secured the higher qualification. The Queen's University of Belfast offers the degree of B.Sc. in Pharmaceutics, the examination for which exempts from examination by the Pharmaceu-

tical Society in pharmacognosy and chemistry, Part II, and from the written examination in pharmacognistry, Part II, and fro macy. Full particulars may be obtained from the Registrar of

the University or the Secretary of the Society.

Before a student can become apprenticed he must pass a preliminary examination in English, mathematics, and three other subjects (one of which must be a language from the following list):—Latin, Greek, French, German, Spanish, Italian, Irish, modern history, geography, botany, chemistry, physics or mechanics. The five subjects must have been passed at one, or not more than two, of the following examinations: (a) The Matriculation examination of the Queen's University of Belfast; (b) any examination accepted by that University as equivalent to Matriculation examination; (c) the Pharmaceutical Preliminary examination of Queen's University, Belfast. Candidates in the first instance must apply to the secretary of the Pharmaceutical Society of Northern Ireland, 73 University Street, Belfast, at least one month before the last day of entry for Matriculation. They will be examined on the papers set for the Queen's University Matriculation examination, and must reach the standard set for the Pharmaceutical Preliminary, which is below Matriculation standard. An appliance Preliminary, which is below Matriculation standard. An application for the Preliminary certificate of apprentice to a pharmaceutical chemist must be accompanied by £3 3s. Having obtained this, the student will register officially as an apprentice at the Ministry of Home Affairs (fee 5s.). A four-years'

apprenticeship to a pharmaceutical chemist or four years with a registered druggist and two years with a pharmaceutical chemist then begins.

Pharmaceutical Chemists

Having satisfied the requirements as to apprenticeship and attendance at approved courses of instruction the candidate under the new Regulations must pass Part I, the subjects of which are botany, chemistry Part I, physics and business methods (or pass the Intermediate examination of the Queen's University, Belfast):—

BOTANY.—The elements of plant morphology and anatomy physiology, classification. Practical examination of plants and preparation of sections for the microscope.

CHEMISTRY, PART I.—An elementary knowledge of chemical action, laws, valency; non-metals, metals, carbon, methane, ethylene and acetylene; methods of determining carbon, hydrogen, oxygen and nitrogen in organic compounds. Solve simple problems in weight and volume. Practical.—Preparation of inorganic substances; qualitative and quantitative (volumetric) analysis.

PHYSICS.—Elementary knowledge of mass, energy and work, solids, liquids, gases; temperature; propagation of light, magnetism and electricity. tricity. Practical. - Perform simple experiments on the above.

Business methods. - Book-keeping, including business books required in a pharmacy; double entry; balance sheets; commercial law relating to master and servant, leases, agreements and contracts. A working knowledge of matters likely to arise in pharmaceutical practice relating to licences, insurance, income tax, partnership and company trading, elementary principles of advertising and salesmanship; modern methods of window display; shopcraft, including arrangement of a shop, windows, heat, ventilation, counters, wall and counter cases and general layout.

Having passed Part I at not more than two examinations, the candidate supplies evidence of age, twenty-one, attendance at approved courses in the subjects of Part II as follows. Alternatively, the candidate may submit to the Board of Examiners evidence that he has passed the examination in all subjects of Final Part I for the B.Sc. in pharmaceutics of the

Queen's University, Belfast, and present himself for oral and practical examinations in pharmacy, practical pharmacy, Latin and prescription-reading. A candidate who fails in any of these subjects must present himself in all at another examination.

Pharmacognosy.—Recognition of B.P. drugs, their sources, characters, active principles, varieties, natural orders, know-

ledge of B.P. tests.

Pharmacy.—Knowledge of operations requiring heat, disintegration of solid substances, filtration, expression, solution, art of dispensing, manufacture of galenicals.

Translation of Latin pre-

LATIN AND PRESCRIPTION-READING.—Translation of Latin prescriptions; detection of errors; knowledge of posology; percentages.

PRACTICAL PHARMACY.—Perform operations of the B.P. in making galenicals. Compound and dispense medicines.

FORENSIC PHARMACY.—Knowledge of poisons in the fourth Schedule to the Pharmacy and Poisons Act (Northern Ireland), 1925, and conditions relating to keeping, selling and dispensing. Dangerous Drugs Acts and Regulations.

CHEMISTRY, PART II.—General knowledge of B.P. and com-

mon alkyl and aryl compounds, adulterations in B.P. inorganic and organic compounds and methods of determining purity. Practical: Identify specified organic compounds; detect adulterants of B.P. substances; volumetric and nitrometric





determinations; methods of preparing more important in-organic and specified organic compounds; alkaloidal deter-

The examinations are held in June and December, examination fees being £4 4s. for Part I and £8 8s. for Part II. For re-examination, half these fees.

Pharmaceutical Society's Schools

67 Lower Mount Street, Dublin

Director: Chemistry School, Professor H. Norminton, M.Sc. Botany and Materia Medica School, Mr. A. F. Collins, B.Sc., M.P.S.I., H. Dip. Pharmacy Class, Mr. Thomas J. Smith, M.P.S.I., on Mondays, Wednesdays and Fridays from 7.30 to 9.30, and the student must attend at least 75 per cent. of the 9.30, and the student must attend at least 75 per cent. of the lectures to obtain a certificate. Three sessions commence on October 1, January 1, and April 1. Fees: Theoretical chemistry (three months), £1 11s. 6d.; practical chemistry (10o hours), £8 8s.; practice course (three months), past students, £2 2s.; students of other schools, £4 4s.; botany and materia medica (three months), £2 2s.; pharmacy, £4 4s.; students of other schools, £5 5s. Botany and materia medica classes held on Tuesday and Thursday evenings. Revision courses for past students, helf fees students, half fees.

Belfast Municipal College of Technology

Head of Chemistry Department: Professor H. Wren, D.Sc.; Lecturers in pharmaceutical subjects, C. J. Still, Ph.D., M.Sc., C. W. Young, Ph.C., Miss Hughes, B.A., M.Sc., A.I.C., J. W. Porter, F.I.C., F.R.C.Sc.I., A. J. Thorburn, B.Sc., Ph.C. Under the co-ordination scheme with the Queen's University of Belfast students may also obtain the degree of B.Sc. in Pharmaceutics.

Apothecaries' Assistants

Section 17 of the Apothecaries Act, 1815, enacted that an examination should be instituted for the purpose of granting certificates to persons "to act as assistant to an apothecary in compounding and dispensing medicines." The examination is held four times a year; the conditions are as follows: held four times a year; the conditions are as follows:

(a) The candidate (male or female) must be at least eighteen years (a) The candidate (male of lemale) must be at least eighteen years of age. (b) A certificate of general education up to the age of sixteen must be produced. (c) A certificate of instruction in chemistry for not less than 200 hours during nine months, signed by a principal teacher of chemistry at a university, college, technical institute, school of pharmacy, or a secondary school, or by a person possessing a university degree in science, or a fellowship of the Institute of Chemistry. (d) A certificate of instruction in practical pharmacy and materia medica for not less than 200 hours during nine months, signed by an assistant of the Society holding a public appointment. signed by an assistant of the Society holding a public appointment, a registered pharmacist, or a registered medical practitioner. (e) The candidate must pass an examination in (1) compounding and dispensing medicines (a practical and oral examination), (2) chemistry, materia medica, pharmacy, and the translation of prescriptions (an oral examination). Fee £6 6s.

Particulars are obtainable from the Registrar, Society of Apothecaries of London, Water Lane, London, E.C.4.
The Apothecaries' Hall of Ireland has a similar examination

for the certificate of assistant to an apothecary. The examination is held monthly, August and September excepted. Fee, 48 8s. Particulars from the Registrar, 95 Merrion Square, Ďublin.

Books for Students

The following list contains some of the popular text-books for pharmaceutical students:

BOTANY

"Pharmaceutical Botany" (C, & D, Office), 5s. "Practical Botany for Beginners," Bower and Gwynne-Vaughan (Macınillan), 4s.

"Text-book of Botany for Medical and Pharmaceutical Students" and "Practical Botany," James Small (Churchill), 21s. and 10s. 6d. respectively.

CHEMISTRY

"Text-book of Inorganic Chemistry," Senter (Methuen), 7s. 6d.
"Modern Inorganic Chemistry," Mellor (Longmans), 12s. 6d.

"Inorganic Chemistry," Lowry (Macmillan), 20s.
"A Student's Manual of Organic Chemistry," Thorpe and Whiteley (Longmans), 9s.

"Volumetric Analysis," Hampshire (Churchill), 7s. 6d.
"Text Book of Organic Chemistry," J. B. Cohen (Macmillan).
"Organic Chemistry for Medical and Pharmaceutical Students," A. Killen Macbeth.

Pharmaceutical Latin and Prescription-Reading

"Medical and Pharmaceutical Latin for Students of Medicine and Pharmacy," R. R. Bennett (Churchill), 10s. 6d.
"Latin Grammar of Pharmacy," Joseph Ince (Baillière), 7s. 6d.
"Latin for Pharmaceutical Students," J. W. Cooper and A. C.

McLaren (Pitman), 6s. PHARMACOGNOSY

"Text-book of Pharmacognosy," Greenish (Churchill), 25s.
"Materia Medica," Southall, revised by E. W. Mann (Churchill),

12s. 6d.
"Text Book of Pharmacognosy," G. E. Trease.
"Recent Advances in Materia Medica," J. H. Burn (Churchill).

PHARMACEUTICS

"British Pharmacopœia," 1932 (Constable), 21s.
"British Pharmaceutical Codex," 1934 (Pharmaceutical Society),

35s.
"The Science and Practice of Pharmacy," R. R. Bennett and T. T. Cocking (Churchill), 36s. (2 vol.).
"A Course in Practical Pharmacy," J. W. Cooper and F. N. Apple-

yard (Pitman), 7s. 6d.

"Art of Dispensing" (C. & D. Office), 8s.

"Forensic Pharmacy" (Pharmaceutical Society), 3s. 6d.

"Dispensing for Pharmaceutical Students," Cooper and Dyer

(Pitnian), 7s. 6d.

"A Handbook to Pharmacy," W. Kirkby (C. & D. Office), 5s. (Ready shortly.)
Bentley's "Pharmacy."

Physics

- "Manual of Physics," Crowther (Oxford University Press), 14s. "Principles of Physics," Smith (Arnold), 9s. "Physics," Gregory and Hadley.

Physiology

"Lessons in Elementary Physiology," T. H. Huxley. "Handbook of Physiology," Leonard Hill.

Prescription Problem

Our next problem is given below. Exact transcriptions of the prescription are invited on postcards only (one attempt), which should reach the Editor, The Chemist and Druggist, 28 Essex

Street, London, W.C.2, not later than the first post on August 24. Prizes will be awarded at the discretion of the Editor.





Scholarships and Prizes

The Pharmaceutical Society of Great Britain offers annually three medals for competition by pharmaceutical chemists who have passed the Pharmaceutical Chemist Qualifying examination, and were members or student-associates of the Society at the time of passing. The (written) examination is in materia medica, botany and chemistry. The first prize is the Pereira silver medal and books; second, the Society's silver medal and books; and third, the Society's bronze medal and books. The Society also has in its gift the following:—

The Jacob Beil Scholarship.—A scholarship of the annual value of about £70, offered annually by the Society. The award also includes a gift of books. The scholarship is tenable for one or two years in respect of various courses of study. Details are obtainable from Mr. Hugh N. Linstead, Secretary and Registrar, 17 Bloomsbury Square, London, W.C.I.

The Burroughs Scholarship has been combined with the Redwood Scholarship and the Ransom Fellowship for affording pharmaceutical chemists or university graduates in pharmacy opportunities of working in the research laboratories of the Society. Each scholarship is tenable for two years, and each holder of a scholarship receives apparatus and £100 per annum. The annual sequence of the scholarship is as follows: Burroughs; Ransom; Redwood; Ransom. Particulars and application forms may be obtained from the Secretary of the Society.

The Devon and Cornwall Exhibition in Pharmacy, of the annual value of about £25, is tenable at the University College of the South-West, Plymouth, and is applied to the payment of tuition fees. Candidates must have been trained during a specified period in Devon or Cornwall.

Herbarium Prizes.—The Council of the Society offers annually to its student-associates a silver medal, a bronze medal and certificates of honour for an herbarium of not more than 150 British plants collected in any part of the British Isles. Further particulars from the Registrar of the Society.

The Charles James Hewlett Memorial Exhibition, of the value of about £15, is awarded annually on the recommendation of the College staff to the student-associate (other than a Bell scholar) who most distinguishes himself during attendance at the first year's course for the Pharmaceutical Chemist Qualifying examination or for the B.Pharm. degree.

Leverhulme Scholarships.—A fund endowing three scholarships of the annual value of £60 each was presented to the Society by the late Lord Leverhulme in 1923. The first scholarship carries with it a gold medal and £5 worth of books, and the second a prize of books to the value of £5. Further particulars from the Registrar of the Society.

The Manchester Pharmaceutical Association Scholarship is open to student-associates of the Pharmaceutical Society who have served an apprenticeship in Lancashire, Cheshire, or the High Peak Parliamentary Division of Derbyshire. It has an annual value of £45.

The Petrie Trust Bursary, of the annual value of about £16, is awarded each year to a registered apprentice or student who has completed a three-years' apprenticeship in the city or county of Aberdeen. Further particulars may be obtained from Mr. H. M. Dugan, 57 Braemar Place, Aberdeen.

The Rammell Studentship, of the value of £100, is tenable for a year in the Society's Pharmacological Laboratories by a pharmacist or last-term student.

Nottingham University College Studentships.—Two studentships of the annual value of £31 108. each are awarded, on the recommendation of the Council, by the governing body of University College, Nottingham. Further particulars in the Society's Calendar.

Until further notice, the Jacob Bell, Manchester and Leverhulme scholarships and the Devon and Cornwall exhibition will be awarded in accordance with regulations of which the following paragraphs are an abridgement.

- r. There shall be one examination for all the scholarships, which will be conducted by an examiner or examiners appointed by the Council of the Society, and the awards made by the Council on the recommendations of such examiner or examiners.
- 2. The examination shall be held on the second Tuesday and Wednesday in June of each year in Aberdeen, Birmingham, Cardiff, Edinburgh, Exeter, Leeds, London, Manchester, Newcastle, and Nottingham, or such other centres as may be selected.
- 3. At the time of giving notice of their intention to enter for the examination, competitors must have complied with the conditions laid down in the Society's Calendar.

- 4. No person shall be awarded more than one scholarship, but a person may compete for all the scholarships for which he is eligible at the same examination. Should he gain marks entitling him to the award of more than one scholarship he will be permitted to select the scholarship he wishes to have awarded to him.
- 5. On the day on which the examination is held, competitors must be not more than twenty-two years of age.
- 6. Competitors must give notice to the registrar in London on or before May 15 in the year in which the examination is to take place. The notice must be accompanied by a registrar's certificate of birth, an employer's testimonial, a declaration as to practical training, and in the case of an entrant for a Nottingham studentship evidence of having matriculated at London University or being qualified for exemption. At the same time the competitor must state (a) the examination centre at which he wishes to attend and (b) in the case of the Bell and Manchester scholarships and the Nottingham studentship, the language subject in which he wishes to be examined.

7. The subjects of the examination (which is conducted by means of written papers) are English essay, pharmacy, chemistry, Latin (or French or German), botany, business methods. Botany and business methods are to some extent interchangeable. (Full particulars, including a syllabus and notes, are printed in the Society's Calendar.)

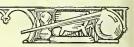
The Pharmaceutical Society of Ireland.—The Council awards annually a gold and silver medal to pharmaceutical chemists who have during the year passed the Licence examination on the first attempt and obtained the following standard of marks: For the gold medal, not less than 240 marks out of 300, and 65 in each of the three subjects; for the silver medal, 230 marks out of 300, and 60 in each of the three subjects. Two preliminary scholarships (1st class, value £10 10s.; 2nd class, value £5 5s.) are awarded each September. Particulars may be obtained from the Registrar.

The Fairchild Scholarship was founded in 1904 by Fairchild Brothers & Foster. The object of the scholarship is to encourage study during apprenticeship. The examination is designed not as a test for completed studies, but to see how far the student has used his time and powers of observation during apprenticeship so as to fit himself or herself to appreciate fully the subsequent course of study. The value is £60, and, in addition, there are prizes of £5 for the best student in England, Scotland, Wales and Ireland, apart from the scholarship. The examinations take place during June, and entries should be made on, or before, June 1. The examinations are held in London, Manchester, Edinburgh, Cardiff, Dublin and Belfast, the amount over 5s. railway fare being refunded if application is made to the Secretary. The age limit is not less than nineteen years on July 1, 1937, nor exceeding the twenty-second birthday on January 1, 1937, and all competitors must be registered students or apprentices of pharmacy. The successful student must commence his studies within the year after winning the scholarship. The subjects are: Chemistry and physics, botany, practical pharmacy and prescription-reading, business knowledge. The trustees are Mr. Peter Boa, Edinburgh; Mr. William Kirkby, Manchester; Mr. A. J. Phillips, London. All communications should be addressed to the Secretary to the Trustees, Mr. Herbert Skinner, Ph.C., Albert Chambers, 65 Holborn Viaduct, London, E.C.I.

The Kinninmont Scholarship.—Instituted in 1894 by the late Alexander Kinninmont, Ph.C., for pharmacy students in Glasgow and the West of Scotland. The scholarship, of the value of £10 10s., tenable at the Royal Technical College, Glasgow, is awarded on the result of a written examination in chemistry, botany and physics, held in Glasgow in September of each year.

"Corner for Students" Prizes.—The Chemist and Druggist conduct a monthly competition in qualitative chemical analysis. The next series of competitions, which commences in October, will give students of chemistry excellent practice in manipulation and deduction. This section of The Chemist and Druggist has for nearly seventy years afforded students a means of testing their progress in an important aspect of practical chemistry. In our Educational Number of August 20, 1921, we gave a list of first-prize winners from the institution of the Corner in 1868 to that date. The list included such well-known names as those of F. H. Alcock, R. R. Bennett, H. Brindle, R. A. Cripps, L. Dobbin, F. W. Fletcher, D. Hooper, W. A. Shenstone, J. C. Thresh and R. Wright. The mention of these names may encourage present-day students to take part in similar competitions.





Medicine

In his presidential address to the British Medical Association at Oxford last month, Sir E. Farquhar Buzzard, after urging the desirability of establishing what he called health centres, in which team work of a more highly organised kind than is now possible should be the rule, added that he failed to see "why general practice should not assume a more important rôle in the future of medicine than it has played in the past, and at the same time re-establish some of the personal family doctor relationships, recently imperilled, on secure and useful foundations." The results of an inquiry concerning the present-day openings of medical practice were given in the educational number of "The Lancet" last year: 651 replies to a questionnaire were received from medical practitioners, two-thirds of whom belonged to the age-group 27-30. Half of the men (298) had entered general practice, rather more than one-fourth had specialised in research or other work, and about 12 per cent. were in the public health services at home or abroad. Of the general practitioners nearly three-quarters had a gross income reaching or exceeding £500. Taking the replies as a whole, these recent graduates, "The Lancet" remarks, "have settled in their profession with a substantial degree of success.

The General Medical Council is the governing body in this country for the purposes of examination, registration and discipline. The Council issues (price 1s.) a "Memorandum on the Procedure to be Adopted by those who Desire to Enter the Profession of Medicine. . ." Candidates for the profession are required to possess, at the outset, a general education of the standard needed for matriculation in medicine, arts or science at a British University, together with evidence of having passed an approved pre-registration examination in elementary chemistry and elementary physics and of having commenced medical study. There are two types of medical qualification, the degrees bestowed by the universities and the diplomas given by such bodies as the Royal Colleges of Physicians and Surgeons.

Preliminary Examinations

The education committee of the General Medical Council issues a list of examining bodies, the examinations of which in general education fulfil the conditions laid down by the Council as to admission as a medical student. Any preliminary examination must include: (1) English; (2) elementary mathematics; (3) a language other than English; (4) an additional subject or subjects as required by the regulations of the examsubject of subjects as required by the regulations of the examination selected. A Joint Matriculation Board (Secretary, 315 Oxford Road, Manchester, 13) governs the Matriculation examinations of the Universities of Manchester, Liverpool, Leeds, Birmingham and Sheffield. The College of Preceptors, Bloomsbury Square, London, W.C.1, holds in March and September of every year, in Birmingham, Blackburn, Glasgray, Leeds, Liverpool, London, Marchester, and Supresses. gow, Leeds, Liverpool, London, Manchester and Swansea, a Professional Preliminary examination for certificates recognised by the General Medical Council and other bodies. The examination may also be held at other specified centres if sufficient entries are received. The fee is 25s., centres it sufficient entries are received. The fee is 25s., plus a local fee of from 5s. to 15s. A similar examination is held (fee, 21s.) by the Educational Institute of Scotland, 46 and 47 Moray Place, Edinburgh, 3, in February, May, August and November (calendar, 6d.; examination papers, 1s.). The examination centres are Edinburgh, Glasgow, Liverpool, London and Dublin. The subjects which are compulsory and those which are optional differ to some extent in the requirements of the various universities and other evolifying helding. ments of the various universities and other qualifying bodies; consequently, the candidate must either matriculate at the university at which he or she intends to study or ascertain that the Preliminary examination certificate held is one that will be

Registration as Medical Students

The way of entrance to the medical profession is laid down in "Regulations of the General Medical Council in Regard to the Registration of Medical and Dental Students" (rs., post free from the Registrar, 44 Hallam Street, London, W.1).

The following is a summary of the regulations:—

(1) Before registration as a student every candidate shall produce evidence that he has attained the age of seventeen years.
(2) The minimum standard of general education required will be

that of University matriculation or entrance examination in arts or pure science.

(3) Before registration as a student every applicant shall be required to have passed an approved examination in general education (see "2"), and, in addition, an examination in elementary physics and elementary chemistry conducted or recognised by one of the licensing

(4) A student who has diligently attended an approved course of instruction in elementary biology at a secondary school or other teaching institution recognised by a licensing body may be admitted to the Professional examination in elementary biology, if that body sees fit, immediately after his registration as a student.

Certain changes in these regulations were made by the General Medical Council at its session of last May, and will come into force on January 1, 1938. The Registrars to whom according to the division of the United Kingdom in which the student is training, application must be made for registra-

The Registrar of the General Medical Council, 44 Hallam Street, Portland Place, London, W.I.

The Registrar of the Scottish Branch Council, 12 Queen Street, Edinburgh, 2.

The Registrar of the Irish Branch Council, 35 Dawson Street, Dublin.

The Registration Office for the Irish Free State is Room 123, Custom House, Dublin.

A few bodies allow medical studies to be commenced at approved teaching institutions other than medical schools, and this principle is extended to graduates in arts or science at approved universities. No general exemption of this kind is given to registered chemists and druggists except as regards training in practical pharmacy. The Preliminary examination must have been of the standard given in the regulations, but the colleges and universities consider applications for exemption the colleges and universities consider applications for exemption from any part of the medical examinations when such subjects as chemistry and biology have been taken at recognised institutions. Each examining body issues regulations as to the studies required, and the schools of medicine arrange their courses in conformance with such requirements.

University Degrees

In the following paragraphs we indicate concisely the conditions framed by the universities of the places named for the ordinary degrees in medicine and surgery (M.B., Ch.B., or the equivalent degrees).

ABERDEEN.—The curriculum extends over a period of not less than five years. Bursaries, scholarships and fellowships to the annual value of £1,200 are obtainable. Further information may be obtained from the Secretary to the University.

Belfast.—Three academic years at least, out of the five prescribed for the curriculum, must be passed in the University. The Dean of the Faculty of Medicine is Professor W. J. Wilson, M.D.

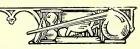
BIRMINGHAM.—The course extends over six years, and there are five examinations. Several scholarships are available. A minimum of three years must be spent in the University. Dean of the Medical Faculty, Dr. Stanley Barnes, University Medical Buildings, Edmund Street.

Bristol.—There are three examinations. The curriculum occupies five years subsequent to the passing of the Preliminary Science examination in chemistry and physics. Particulars of scholarships and prizes are given in the University (Faculty of Medicine) prospectus. Secretary and Registrar, Miss Winifred Shapland.

Cambridge.—Students are required to pass or obtain exemption from the Previous examination before proceeding to the examinations for the M.B. and B.Chir. degrees. For the M.B. degree the candidate must also compose a thesis. The Registrary is Mr. E. Harrison, M.A.

Dublin.—Candidates for the degrees in medicine, surgery and obstetric science must be of B.A. standing and must have completed five years in medical studies. Dean of the Faculty of Physic, Dr. J. W. Bigger.





DURHAM.—There are four examinations for the M.B., B.S. degrees, and the course of study extends over five years, three of which must be spent at the University's College of Medicine. Numerous bursaries and prizes are offered. Dean, Dr. Stuart McDonald, University of Durham College of Medicine, Newcastle-upon-Tyne.

EDINBURGH.—The course for the degrees of M.B. and Ch.B., which are not conferred separately, extends over not less than five years. There are four examinations. Several scholarships, bursaries and prizes are offered for competition. Dean of the Faculty of Medicine, Professor Sydney Smith, M.D.

GLASGOW.—There are four examinations. The period of study prescribed is five years. Various bursaries and prizes are open to competition. The Dean is Prof. C. H. Browning, M.D.

IRELAND.—The National University of Ireland conters the M.B., B.Ch., and B.A.O. degrees (simultaneously) upon matriculated students who have passed the Pre-Registration examination and four further examinations. Particulars may be obtained from the Registrar, National University, Dublin.

LEEDS.—There are three examinations, and the course of

Study extends over five years. Dean of the Faculty of Medicine, Professor J. K. Jamieson, M.B., C.M.

Liverpool.—The curriculum extends over six years, three of which must be passed in the University. There are three examinations. Fellowships, scholarships and prizes are available. Dean of the Faculty, Professor W. H. Wood, M.D.

London —The normal course of study extends over five and

London.—The normal course of study extends over five and a half years, and there are three examinations, the second of which is divided into two parts. There are several studentships and research grants available. Internal and external students should apply respectively to the Academic Registrar and the External Registrar, University of London, W.C.I.

MANCHESTER.—Four examinations for the two degrees, after study extending over not less than five years, must be passed. Scholarships, exhibitions and other competitive prizes are offered to students. Full information is obtainable from the Dean of the Medical School (as to classes) and the Registrar (as to examinations).

Oxford.—Candidates must hold an Oxford Arts degree as a prerequisite. Two examinations are held (after a preliminary examination) for the degree of B.M.; the degree of B.Ch. is granted with that of B.M. after passing the second examination. The minimum time in which the degrees can be obtained is about six years from the commencement of "residence." The statutes are published at the Clarendon Press.

St. Andrews.—The course for the M.B., Ch.B. degrees

(which are not separable) extends over at least five years, and there are four examinations. Dean of the Faculty, Professor F. J. Charteris, M.D., Medical School, Dundee.

Sheffield.—There are four examinations for the M.B., Ch.B. degrees, the curriculum occupying five and a half academic years. Several exhaltering are available.

academic years. Several scholarships are available. Dean of the Faculty, Professor G. A. Clark, M.D.

WALES.—The course of study is divided into two parts, each extending over three academic years. A degree in science or arts of some approved university is necessary before medical degrees can be conferred. The constituent colleges are Aberystwyth, Bangor, Cardiff and Swansea. Provost, A. W. Sheen; Secretary, S. C. Edwards, The Parade, Cardiff.

Medical and Surgical Diplomas

M.R.C.S.Eng. AND L.R.C.P.LOND.

The Examining Board of the Royal College of Physicians of London and the Royal College of Surgeons of England (known as "the Conjoint Board") grant a joint diploma for registra-tion as a general medical practitioner. There are two profes-sional examinations (in addition to the Preliminary examina-tion and Pre-medical examination) during the five years' curriculum subsequent to registration as a medical student.

The subjects of the First Professional Examination are:-The subjects of the First Professional Examination are:—Section I, (a) Anatomy, including histology and embryology; (b) Physiology, including biochemistry. Section II, Pharmacology and materia medica. Candidates must take Parts (a) and (b) of Section I together until they have passed in one or both parts. Candidates will not be allowed to pass in one part unless they obtain at the same time at least half the number of marks required to pass in the other part. Section II may be passed at any time before the candidate enters for the Final examination. Before admission to the First examination, candidates must produce evidence of having attended specified courses of instruction.

The subjects of the Final Professional Examination are: -Section I, Pathology (including morbid anatomy, morbid histology and clinical pathology) and bacteriology. Section II, Part I, Medicine, including medical anatomy, forensic medicine and public health. Part II, Surgery, including surgical anatomy and the use of surgical appliances. Part III, Midwifery and gynæcology. Candidates will be required to produce evidence of having completed specified courses of

Synopses of the examination can be obtained from Mr. H. H. Rew, Secretary of the Examining Board, 8-11 Queen Square, London, W.C.1.

SCOTTISH TRIPLE QUALIFICATION

The Royal Colleges of Physicians and Surgeons of Edinburgh, with the Royal Faculty of Physicians and Surgeons of Glasgow, grant three diplomas ("Triple Qual.") jointly entitling the holder to registration as a general medical practitioner. The four examinations are held in Edinburgh, Glasgow, or both cities. The course of study must occupy not less than five years. Full particulars may be obtained from the Registrar, Surgeons' Hall, Edinburgh, or the Registrar, 242 St. Vincent Street, Glasgow.

IRISH QUALIFICATION

Particulars of the examination of the Irish Conjoint Board for the licences in medicine, surgery and midwifery may be obtained on application to the Secretary of the Committee of Management, Royal College of Surgeons, St. Stephen's Green,

LONDON SOCIETY OF APOTHECARIES' DIPLOMA

The Society of Apothecaries of London grants a diploma The Final (L.M.S.S.A.) in medicine, surgery and midwifery. examination is held monthly, except in September, and comprises: -(a) Principles and practice of surgery, including surgical pathology, surgical anatomy, operative manipulation, instruments and appliances. (b) Principles and practice of medicine, including therapeutics, pharmacology, pathology, bacteriology and morbid histology. (c) Midwifery, gynæcology, diseases of new-born children and the use of obstetric instruments. ments. (d) Forensic medicine, hygiene, mental diseases, and the theory and practice of vaccination. Sections (a) (b plus d) and (c) may be taken separately. The minimum period of medical study extends over five years (fifty-seven months). The fee for the Pre-medical examination is £5 5s., and for the Licence £21, which may be paid in two instalments. Members of the Pharmaceutical Society of Great Britain are required to pass a Preliminary examination in general education in accordance with the registration requirements of the General Medical Council. They are exempted from the subject of chemistry in the Pre-Medical examination, and are required to complete the full curriculum and examinations. tion may be made to the Registrar, Society of Apothecaries of London, Water Lane, E.C.4.

DUBLIN APOTHECARIES' DIPLOMA

The Apothecaries' Hall of Ireland grants a diploma (L.A.H.) to candidates who pass the requisite examinations. There are three examinations, with fees of £10 10s., £10 10s., and £21 respectively. Particulars may be obtained from the Registrar of the Apothecaries' Hall, 95 Merrion Square.

Medical Schools

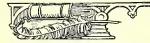
The following are the principal medical schools in the United Kingdom:---

LONDON

The following medical schools are constituents of the London University:

Charing Cross Hospital Medical School, Chandos Street, C.2. The School contains a large and well-equipped library and a pathological museum. Scholarships and prizes to the value of about £700 are awarded every year. Dean, Mr. Eric A. Crook, M.Ch., F.R.C.S.

Guy's Hospital Medical School, London Bridge, S.E.I .-Several scholarships are obtainable by students, and a residential college (facing the hospital) is open. Communications should be addressed to the Dean of the Medical School, Professor T. B. Johnston.





King's College, Faculty of Medical Science, Strand, W.C.2.—Students are prepared for all the usual preliminary and intermediate examinations in medicine and surgery. Scholarships and prizes exceeding £600 in value are awarded annually. Inquiries should be addressed to the Dean of the Faculty of Medicine.

King's College Hospital Medical School, Denmark Hill, S.E.5.—Scholarships of a total value of £1,530 are offered annually. •Secretary, Mr. S. C. Ranner, M.A.

London Hospital Medical School, Turner Street, E.i.—Scholarships open to competition, and numerous prizes in various subjects. Dean, Professor W. Wright, D.Sc., M.B.

London (Royal Free Hospital) School of Medicine for Women, Hunter Street, W.C.I.—Dean, Miss Elizabeth Bolton, C.B.E., M.D., B.S. A list of scholarships (total annual value, £1,950) and other particulars may be obtained from the Warden and Secretary.

Middlesex Hospital, Union Street, W.I.—The School, which includes the Bland-Sutton Institute of Pathology, the Courtauld Institute of Biochemistry, the Ferens Institute of Otology and the Barnato-Joel Research Laboratories, is fully equipped for teaching the entire medical curriculum; special courses are given. Two entrance scholarships, value £100 each, and four university scholarships, value £100 each, are awarded annually. Other scholarships and prizes to the total value of £1,000 are also awarded each year. Secretary, Mr. R. A. Foley, F.C.C.S.

St. Bartholomew's Hospital Medical College, Smithfield, E.C.I.—The total value of the scholarships and prizes awarded annually is over £1,900. Dean, Mr. W. Girling Ball, F.R.C.S.

St. George's Hospital, Hyde Park Corner, S.W.I.—Courses in preliminary and intermediate subjects are taken at King's College or University College. There are several scholarships, exhibitions and prizes. Dean, Mr. M. F. Nicholls, M.Ch.

St. Mary's Hospital Medical School, Cambridge Place, W.2.—Entrance-scholarships, together with several studentships and prizes, are awarded annually. Dean, Dr. C. M. Wilson.

St. Thomas's Hospital Medical School, Albert Embankment, S.E.I.—Entrance scholarships and other prizes are open for competition. Secretary, Dr. R. J. C. Thompson.

University College Hospital Medical School, University Street, W.C. r.—Several scholarships and exhibitions are offered by competition. Dean, Dr. Gwynne Williams, M.S., F.R.C.S.

Westminster Hospital Medical School, 12 Caxton Street, S.W.I.—Scholarships and prizes are awarded. Preliminary and intermediate studies are taken at King's College. Dean, Dr. Adolphe Abrahams, O.B.E.

OUTSIDE LONDON

ABERDEEN.—University Faculty of Medicine.—The total cost of obtaining the M.B., Ch.B. degree is estimated at £240, including hospital fees, class fees, and degree fees. Clinical study is available at the Royal Infirmary and other local institutions. Applicants should communicate with the Secretary.

Belfast.—Queen's University of Belfast.—Students are prepared, during a five-years' course, for the degrees of M.B., B.Ch., and B.A.O. The combined class and laboratory fee for four years is £105, payable in four instalments.

BIRMINGHAM.—University Faculty of Medicine.—The minimum cost of obtaining the double degree is estimated at £246. Combined courses for medical and dental degrees or diplomas can be arranged. Full information is obtainable at the Dean's Office, Medical Buildings, Edmund Street.

Bristol.—University Faculty of Medicine.—The approximate cost of obtaining the conjoint degrees is £261, payable by six annual instalments.

Cardiff.—The Welsh National School of Medicine is a constituent school of the University of Wales. Composition-fees for six years amount to about £290. Application for particulars may be made by letter to the Provost or Secretary.

CORK.—University College is a constituent college of the National University of Ireland. The calendar (price 6d.) is obtainable from the Secretary.

Dublin.—Royal College of Surgeons' Schools of Surgery are attached to the Royal College of Surgeons. The cost of obtain-

ing the conjoint diplomas is estimated at £185 18s. Scholarships and prizes are obtainable. A syllabus may be obtained from Mr. Alfred Miller, Registrar, Royal College of Surgeons.

School of Physic, Trinity College.—The cost of qualifying, after obtaining the B.A. degree, amounts to £146. Registrar, Mr. G. L. Allen, M.A.

University College.—A constituent college of the National University of Ireland.

Durham.—See "Newcastle-upon-Tyne."

EDINBURGH.—University Faculty of Medicine.—The minimum cost of qualification is estimated at £262.

School of Medicine of the Royal Colleges.—The courses of study are suited to University and other qualifications. The minimum cost of education for the triple qualification, including examination fees, is about £180, payable by instalments. Scholarships and bursaries are available. Calendar, 1s. post free, on application to the Dean, Surgeons' Hall, Edinburgh.

Galway.—University College.—A constituent college of the National University of Ireland.

GLASGOW.—The University Faculty of Medicine.—The division of studies is similar to that adopted at Edinburgh, and the fees are about equal.

The Anderson College of Medicine, Dumbarton Road, W.—Students are prepared for University and other qualifications.

St. Mungo's College, 86 Castle Street.—The total fees payable for preparation for a Scottish or English qualification amount to rather more than £100.

Leeds.—University Faculty of Medicine.—The total cost of education for the M.B., Ch.B. degrees is estimated at £367. Registrar of the University, A. E. Wheeler.

LIVERPOOL.—University Faculty of Medicine.—The composition and other fees for a six-years' course are estimated at £375.

MANCHESTER.—University Faculty of Medicine.—The fees for the training and examination for the M.B., Ch.B. degrees are estimated at £350. Courses are also available for other degrees and diplomas. Particulars may be obtained (price 3d.) on application from the Registrar.

Newcastle-upon-Tyne.—University of Durham College of Medicine, Northumberland Road.—The composition-fee for a complete course of lectures and laboratory work at the College is £132 if paid in advance. For particulars apply to the Dean.

St. Andrews.—University Faculty of Medicine.—The inclusive fee for five-years' University and clinical courses for the M.B., Ch.B. degrees is £126, payable in five annual instalments. Advisers of Studies, Professor F. J. Charteris, M.D., Dundee, and Professor D. Waterston, M.D., St. Andrews.

Sheffield.—University Faculty of Medicine.—A five-and-a-half years' course is provided for. The composition-fee is estimated at £238, payable in six instalments.

SWANSEA.—University College.—A constituent college of the University of Wales. Registrar, Mr. Edwin Drew.

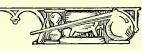
Dentistry

The practice of dentistry in this country is regulated chiefly by the Dentists Act, 1921, which made considerable changes in the then existing conditions and formed a "closed" profession. The large proportion of unexamined dentists who under the provisions of the Act gained admission to the Register has in the course of years diminished in consequence of the addition of newly qualified candidates, who now form the majority. The course of training is a lengthy one, costing a similar sum to a medical curriculum; a double set of qualifications, medical and dental, is taken in some cases, particularly when a high-class practice is contemplated.

Dental Training

The registration of dental students is subject to the following conditions:—The candidate must (1) be not less than





seventeen years of age, (2) have passed a recognised Pre-liminary examination (see "Preliminary Examination" under "Medicine") and a Pre-medical examination, and (3) have commenced professional study, by publications commenced professional study, by pupilage or otherwise. Candidates for a diploma in dental surgery should produce certificates of having been engaged during four years in pro-fessional study, and of having received two years' instruction in mechanical dentistry. No portion of practical instruction which is taken prior to the date of registration may be reckoned as a portion of the four years of professional study. It is recommended that instruction in dental mechanics be taken at a recognised dental hospital or school. If any part of such instruction is taken by the candidate as a pupil with a registered dentist, the time required to be devoted to it shall be at least twice the time required for the corresponding instruction taken at a dental school. Application for registration should be made on the appropriate form to the Registrar of the General Medical Council, 44 Hallam Street, London, W.r. No fee is charged for registration as a student.

The L.D.S. of the Royal College of Surgeons of England takes high rank among registrable qualifications.

The First Examination consists of (1) dental mechanics and dental metallurgy; (2) general anatomy and physiology; (3) special anatomy and physiology of the teeth and associated parts. The examination is held three times a year. Candidates may present themselves for the three parts of the First examination together or separately on production of the required certificates of study.

The Second Examination consists of medicine, general pathology, and bacteriology. Candidates must be certified as having attended prescribed courses of study at a recognised institution for two terms.

The Final Examination comprises (1) general surgery (including surgical pathology); (2) dental surgery and pathology, and practical dental surgery. Candidates must have been engaged in recognised professional study for four years after passing Part I of the Premedical examination, and must have attended certain courses of instruction.

Inquiries should be addressed to the Director of Examinations, Examination Hall, Queen Square, London, W.C.1. Similar conditions apply to the qualifications of the following colleges:-

ROYAL COLLEGE OF SURGEONS, EDINBURGH.—The course of study must occupy at least four years. The subjects are taken in three examinations. Information may be obtained from Mr. J. Wishart, M.A., Registrar, 46 and 47 Moray Place.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW .-The general regulations are similar to those obtaining at Edinburgh. There are two examinations subsequent to the Pre-liminary and Pre-registration. Particulars are obtainable from Mr. W. Hurst, Secretary of the Faculty, 242 St. Vincent

ROYAL COLLEGE OF SURGEONS IN IRELAND, St. Stephen's Green, Dublin. There are three examinations. The Registrar will furnish particulars on application.

University Degrees and Diplomas

Belfast.—Five years' study is compulsory for students for the degree of B.D.S., and four years for candidates for the licence diploma. Regulations and other information may be obtained from the Secretary, Queen's University.

BIRMINGHAM.—The course for the diploma (L.D.S.) occupies four years, and the course for the B.D.S. degree extends to six years. After October 1937 no credit will be given for work in dental mechanics done with a private practitioner.

Bristol.—The curriculum for the degree and for the diploma extends over not less than four years after passing the Proliminary Science examination. Scholarships and prizes are available. Secretary and Registrar, Miss Winifred Shapland.

Dublin.—Four and a half years must be spent in study for the degree of bachelor in dental science, and the B.A. degree is prerequisite. The arts and dental courses may be taken separately or concurrently. Details may be obtained from the Registrar of the School of Physic, Trinity College, Dublin. (See also "Ireland.").

Durham.—The University grants a licence and two degrees in dental surgery. The diploma course occupies four years, and the primary degree course five years. Particulars may be

obtained on application to the Dean, University of Durham College of Medicine, Newcastle-upon-Tyne.

IRELAND.—The course of study for the B.D.S. degree of the National University of Ireland extends over at least four years, and there are four examinations. Constituent colleges, Dublin and Cork. (See also "Dublin.")

Leeds.—There are three examinations, in addition to a

prescribed course of study extending over five years for the degree and four years for the diploma. Registrar of the University, Mr. A. E. Wheeler, M.A.

LIVERPOOL.—There are four examinations for the degree of B.D.S. or for the licence in dental surgery (L.D.S.). Four years' study is required for the licence and five and a half years for the degree. Dean of the Medical Faculty, Professor W. H. Wood, M.D.

London.—The degree of B.D.S. is conferred after matriculation and three subsequent examinations, the second of which is taken in two parts. The curriculum extends over five years. For particulars apply to the External Registrar (if an external student; otherwise to the Academic Registrar), University of London, South Kensington, S.W.7.

Manchester.—The curriculum for the B.D.S. (four examinations) extends over five and a half years. The diploma course covers four years. Inquiries regarding examinations should be addressed to the Registrar of the University.

St. Andrews.—The University grants a diploma in dental surgery (L.D.S.), after four years' study. There are four examinations. There is also obtainable a diploma in public dentistry, the first of its kind. For particulars apply to Dr. Graham Campbell, Dental Hospital, Park Place, Dundee.

SHEFFIELD.—Not less than five years' study is required for the degree and four years for the diploma. There are three examinations for each. Registrar of the University, Mr. W. M. Gibbons, O.B.E., M.A.

Dental Instruction

The following are the chief schools in the United Kingdom for instruction in the science and practice of dentistry:-

London

Guy's Hospital Dental School, London Bridge, S.E.I .-Practical training is provided in the hospital. Particulars may be obtained from the Dean of the Dental School, Guy's Hospital, London, S.E.1.

King's College Hospital Dental School, Denmark Hill, S.E.5.—Complete instruction is given, in association with King's College, for dental degrees and diplomas. Dean, Mr. John A. Drake; Secretary of the School, Mr. S. C. Ranner,

London Hospital Dental School, Turner Street, E.I.—Full course (including dental mechanics) for L.D.S. diploma. Inquiries should be addressed to the Dean, Professor W. Wright,

Royal Dental Hospital of London School of Dental Surgery, Leicester Square, W.C.2.—Particulars of several scholarships are given in the calendar of the school. Dean, Mr. H. Stobie.

St. Mary's Hospital, Paddington, W.2.—Dean of the Medical School, Dr. C. M. Wilson; Secretary, Mr. B. E. Matthews.

University College Hospital Dental School, Great Portland Street, W.I.—Students are prepared for the L.D.S., R.C.S.Eng. and the B.D.S.London. Inquiries should be addressed to the Sub-Dean, Mr. J. L. Dudley Buxton, L.M.S.S.A., L.D.S.

Outside London

R.C.S. Eng.

Belfast.—Queen's University Faculty of Medicine.—The combined class and laboratory fee is £23 12s. 6d. for the first year and £26 5s. for the second year. Entrance forms and other information may be obtained by applying to the Secretary.

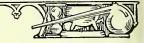
BIRMINGHAM.—University School of Dentistry.—The Birmingham B.D.S. course costs approximately £360, and the diploma course £310. Particulars may be obtained from the Dean of the Medical Faculty or the University Registrar.

Bristol.—University Faculty of Medicine (Dental Surgery). The inclusive cost of the curriculum is estimated at £273 in

Mary



Educational Information



the case of the degree, and £250 for diploma students. Communications should be addressed to the Secretary and Registrar of the University.

DUBLIN.—School of Dental Science, Trinity College.—The total cost of obtaining the B.Dent.Sc. degree is given in the regulations as £335 19s. 6d., including arts and dental courses and examination and degree fees. For details apply to the Registrar of the School of Physic.

Royal College of Surgeons' Schools.—The College grants a diploma in dental surgery. Cost of tuition, £211; examination fees, £21. Registrar, Mr. Alfred Miller.

DUNDEE.—University of St. Andrews Dental School, Park Place. Composition fees amount to about £192. Adviser of Studies, Dr. Graham Campbell.

DURHAM.—(See "Newcastle-upon-Tyne.")

EDINBURGH.—School of Medicine of the Royal Colleges.—Communications should be addressed to Dr. John Orr, Dean of the School, Surgeons' Hall, Edinburgh.

Incorporated Dental Hospital and School, 31 Chambers Street.—General hospital attendance and clinical instruction are taken at the Royal Infirmary. Dean of the School, Mr. A. C. W. Hutchinson, M.D.S., L.D.S., Secretary, Mr. G. M. Stuart, W.S., 56 Frederick Street.

GLASGOW.—Incorporated Dental Hospital and School, 211 Renfrew Street, C.3. Estimated cost of curriculum and licence examinations, £245, plus £29 for instruments. Communications regarding the School should be addressed to the Dean at the Hospital.

Leeds.—Dental Department of the University.—The cost of education (including books and instruments) for the degree of the University is given in the University Calendar as £405 (£366 for the diploma). Warden of the Dental School, Professor T. Talmage Read, F.R.F.P.S., L.R.C.P., L.R.C.S., L.D.S.

Liverpool.—University School of Dental Surgery.—Candidates are prepared for the licence (L.D.S.Liverpool), the degree of B.D.S., and the higher degree of M.D.S. School fees for the B.D.S. (five years' training) amount to £250; those for the L.D.S. (four years' course) to £198. Director of Dental Education, Professor H. H. Stones, M.D., M.D.S., L.D.S.

Manchester.—Dental Department of the University.—Students are prepared for the B.D.S. of the University, the diploma of the University, or that of the R.C.S.Eng. and other licensing bodies. Before registration shall be considered as complete every student entering on a degree course in the Faculty of Medicine will be required to produce to the Dean of the Medical School his Matriculation certificate or certificate of exemption. In the case of a certificate of exemption, the certificate of the examination on which exemption was granted must be produced. The Dean of the Medical School of the University answers inquiries concerning classes. A prospectus of the Dental Department is issued by the University Press. (3d.)

Victoria University of Manchester, School of Dental Surgery, Oxford Road.—The total fees payable to the University, the Hospital, and the Infirmary for courses of study, examination, loan of microscope, etc., and the conferment of the degree or diploma are approximately as follows:—For the B.D.S.Manch., £317; for the L.D.S.Manch. and for the L.D.S., R.C.S.Eng., £279. The total fees for women are in each case £1 11s. 6d. hooks) costs about £60 in addition. Prospectus on application to The Professor of Dental Surgery, The Dental Hospital, Oxford Road, Manchester, 13.

Newcastle-upon-Tyne.—*University of Durham College of Medicine (Dental Department)*.—Composition fees (including mechanical pupilage) for the degree amount to about £236, for the diploma to about £221. For particulars apply to the Dean of the College.

St. Andrews.—(See "Dundee.")

SHEFFIELD.—Dental Department, University Faculty of Medicine.—Students are prepared for the degree (composition fees, £250, payable by instalments) or the diploma (composition fees, £220, payable by instalments) of the University. Registrar, Mr. W. M. Gibbons, O.B.E., M.A.

Science

Persons possessing both pharmaceutical and "pure" chemistry qualifications hold many technical appointments in wholesale houses and hospital dispensaries. Students are wise to consider from the outset whether they should attempt both courses, because by so doing they may avoid overlapping or duplication of work. In general, commercial positions are better paid than the branches of teaching and research.

The vocation of works chemist, on the other hand, usually calls for a more practical type of skill, and is thus one for which the trained pharmacist, particularly if he has a turn for engineering, is peculiarly suited. To obtain the necessary qualification more than one method is open, but probably to the large majority of pharmacists a full-time University course leading up to a degree is out of the question. For such, an "external" degree, secured in one's spare time through the medium of evening classes or even of a correspondence course, will be deemed more practicable. Below are given particulars of degrees, diplomas and scholarships open to the student of science.

Science Degrees

The regulations for a degree in science of London University require the student to pass three examinations, viz.: (1) The MATRICULATION, (2) the INTERMEDIATE examination in science, and (3) the FINAL examination. Regulations are published for (a) internal students who register as such and follow approved courses of instruction, and (b) external students who are examined without complying with a curriculum.

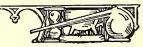
For particulars of Matriculation, Special University Entrance examination and External examinations, apply to the External Registrar, University of London, South Kensington, S.W.7. Regulations for Internal students are to be obtained from the Academic Registrar. The statutes of the University require all External students to register.

The Intermediate examination in science commences on the first Monday in July. An additional Intermediate examination is held, in London, in the more usual subjects only, commencing on the fourth Monday of November. A candidate must have passed the Matriculation examination not later than the preceding January or June, respectively, or otherwise have fulfilled the conditions of exemption. Candidates are required to pass in any four subjects selected by themselves out of the following: (1) Pure mathematics; (2) applied mathematics; (3) physics; (4) chemistry; (5) botany; (6) zoology; (7) geology; (8) the general principles of biology; (9) general physiology; (10) military studies; and (11) geography. At least one of the four subjects selected must be taken from among the first three. The fee is £6 6s.

The Final examination for B.Sc. takes place once a year, commencing on the third Monday prior to the first Monday in July. The B.Sc. degree is obtainable by passing the B.Sc. degree (general) examination in three subjects, or the B.Sc. degree (special) examination in one principal and one subsidiary subject. Successful candidates are awarded First-class Honours, Second-class Honours, or a Pass Degree. An additional general examination is also held in the more ordinary subjects, commencing on the first Monday in November. Candidates must have passed the Intermediate at least a year previously, and the Matriculation approximately three years previously. The fee is £6 6s. There are fifteen prescribed subjects to select from. The degrees Master of Science (M.Sc.), Doctor of Philosophy (Ph.D.), and Doctor of Science (D.Sc.) are also open by examination.

The English provincial, Irish, Scottish and Welsh universities confer the B.Sc. degree (cum curriculo), usually three years after matriculation, with examinations at the end of each session.





Diplomas in Chemistry

The Institute of Chemistry of Great Britain and Ireland onducts examinations for the associateship of the Institute A.I.C.). A certificate in Branch E (see below) is nowadays necessity to obtain an appointment as a public analyst, nd this branch frequently attracts pharmacists to become sociates. The Regulations for the admission of students, ssociates and fellows are obtainable from the Registrar of the Institute, 30 Russell Square, London, W.C.I.

STUDENTSHIP.—At the commencement of their training andidates should register at the Institute (see above) as tudents. They must be British subjects, not less than sixteen ears of age, and have passed an approved preliminary exmination, and at the time of application be recommended by a teacher of chemistry at a recognised institution, or by a fellow of the Institute. Annual registration, 10s.

Associateship.—The Examination for Associateship (A.I.C.) ccupies six days and consists of general theoretical chemistry three papers) and practical chemistry. Fee, £5 5s. It is pen to candidates who (i) have completed four years' ystematic day course of study in prescribed subjects at an nstitution approved by the Council: (ii) in lieu of first year f above have taken two years' full-time study at a secondary chool recognised by the Board of Education or had two years' xperience in the laboratory of a Fellow of the Institute; (iii) n lieu of fourth year of above have had one year's satisactory experience under a Fellow or in an approved laboratory or works; (iv) have obtained a degree including chemistry in he final examination, and have taken a further year's training n chemistry at a recognised institution or have had two other years' approved experience under a Fellow of the Institute or n an approved laboratory or works. In addition, applications are considered from candidates over twenty-five who have peen at least eight years in practice and from candidates over hirty who have been engaged in the study and practice of chemistry for at least twelve years and attained a responsible position but who do not comply with the above requirements.

The following is a synopsis of the examination for the

(a) General Theoretical Chemistry.—A thorough acquaintance with the fundamental laws and theories of chemistry, together with the properties and methods of preparation of the elements and their compounds, both inorganic and organic; and with application of chemistry in the arts and industries. Three papers, any of which may contain questions in inorganic, organic and physical chemistry, are set.

(b) Practical Chemistry.—Exercises in qualitative and quantitative (both gravimetric and volumetric) analysis, including the analysis of alloys, ores and minerals, and the determination of substances present in minute quantities, as impurities or otherwise, in commercial products. Preparation and purification of well-defined chemical substances. Organic analysis, including the recognition and determination of the elements and of typical groups and radicles; the identification of organic compounds; gas analysis; the determination of physical constants and the use of physical instruments employed by chemists.

Candidates are required to satisfy the examiners as to their ability to translate technical literature from French and German into English, with the aid of dictionaries.

Admission to the associateship without further examination may be granted to candidates who have obtained certain university degrees with first or second class honours in chemistry, or other diplomas recognised by the Council, subject to certain limitations as to courses of instruction and training.

FELLOWSHIP.—Admission to Fellowship of the Institute is by examination and is open to associates of three years' standing and not less than twenty-four years of age. An Associate desirous of being exempted from such examination will be required to produce satisfactory evidence that he has either (i) carried out original research of sufficient merit; or (ii) devised processes or inventions of sufficient merit; or (iii) acquired sufficient knowledge and ability, in the opinion of the Council, through having been engaged in important analytical, industrial, consulting or other work of a general or specialised character.

The Fellowship examination is more specialised, and candi-

dates may enter for various branches. These are: (A) inorganic chemistry; (B) physical chemistry; (C) organic chemistry; (D) biochemistry; (E) the chemistry (including microscopy) of food and drugs and water; (F) agricultural chemistry; (G) industrial chemistry.

Scholarships.—Scholarships carrying free instruction and maintenance allowance are awarded annually as a result of science examinations held by the Board of Education. The Salters' Institute awards grants in aid to employees (over seventeen years old) in chemical works in or near London who desire to extend their education in chemical industry. Fellowships in research are offered annually. Applications for grants and fellowships should be made early in June to the Director, Salters' Institute of Industrial Chemistry, St. Swithin's Lane, London, E.C.4.

Science Schools

At various educational centres throughout the country courses are available in scientific subjects covering, in general, the requirements for the National Certificates in Chemistry awarded by the Board of Education (see Rules No. 100, price 2d., obtainable at the Stationery Office) and for the examinations of the Institute of Chemistry. For any other examinations, the student must ascertain from the secretary of the institution whether the curriculum covers the requirements.

ABERDEEN.—Robert Gordon's Technical College includes a well-equipped chemical department. Day classes, £7 per term. Evening classes, from 7s. 6d. to 20s. per session.

ABERYSTWYTH.—University College of Wales.—Three or four year courses for degree in science.

Bangor.—University College of North Wales.—Composition fees for a science student amount to £24 is. per session, including registration and apparatus fees.

Barnsley.—Technical College.—Day courses for B.Sc. of Sheffield University and in fuel and glass technology.

Barrow-in-Furness.—Technical College.—Day and evening classes in chemistry, botany and physics; fees per session, day classes, £3 3s.

Belfast.—Queen's University.—Complete course of applied science and technology.

BIRMINGHAM.—University.—Courses in pure science.—Central Technical College, Suffolk Street.—Part-time afternoon classes in chemistry, botany and physics. Aston Technical College.—Day and evening courses in chemistry and physics; sessional fees, day £1 to £4, evening 10s. 6d.

BLACKBURN.—Municipal Technical College.—Day and evening classes are available in chemistry, physics, biology and botany.

BOLTON.—Municipal Technical College.—Evening courses in chemistry; fees, 5s. to 15s. per session.

BOURNEMOUTH.—Municipal College.—Courses for B.Sc. London degrees. Evening classes in science and technology.

Bradford.—Technical College.—Day and evening courses for University of London degree examinations.

Brighton.—Technical College.—Day courses for University of London degrees in Arts, Science, Engineering and Pharmacy: also for the A.I.C. qualification. Fee: £24 for the session.

Brisiol.:—University.—Degree courses for B.Sc. (fee, £31 10s.), M.Sc., Ph.D. and D.Sc. examinations.

Burnley.—Day and evening classes are held at the Municipal College in chemistry, physics and biology; fees, £1 is. to £2 12s. 6d. per course (part-time).

Bury.—Evening chemistry courses (extending over three years) cost 5s. to 10s. per session.

Cambridge.—University.—For particulars apply to the Registrar. Cork.—University College.—Courses for B.Sc. degree.

DARLINGTON.—Technical College.—Evening courses in chemistry, physics and botany, 20s. Afternoon course in practical and tutorial chemistry, 15s.

DUNDEE.—University College.—Day classes in botany, chemistry, physics, physiology, etc. Technical College.—Central institution for eastern counties of Scotland for technical instruction.

Edinburgh.—University.—Degree courses for B.Sc. Heriot-Watt College, Chambers Street (affiliated to the University of Edinburgh).—Day courses extending over four years for the B.Sc. degree in technical chemistry, University of Edinburgh, and the B.Sc. degree in chemistry, University of London; also for the diploma of the College in applied chemistry and the associateship of the Institute of Chemistry. Fees from £20 to £25. Evening classes are also held from the end of September to March in organic and inorganic





cliemistry, physical chemistry, applied chemistry and practical pharmacy (manufacturing processes).

EXETER.—University College.—Courses for the external degrees of the University of London, and for the A.I.C., and Institute of Physics examinations.

Galway.—University College.—A constituent college of the National University of Ireland. Courses leading to the B.Sc. degree.

HALIFAX.—Municipal Technical College.—Day courses in chemistry, physics and dyeing, £15 per session; evening classes, from 14s. to 20s. per subject.

Huddersfield.—Technical College.—Full-day and evening courses in chemistry, physics, botany, zoology, and technological subjects, including manufacture of dyes. Courses for Institute of Chemistry's examinations. Sessional fees: Day, £12 12s. to £21; evening from 10s., according to requirements.

Hull.—Municipal Technical College, Park Street.—Day, B.Sc. (Lond.) and A.I.C. courses, £2 2s. to £10 per term; full-time day courses for pharmacists and dispensers, £2 2s. per term for Hull students. Special courses in agriculture, materia medica, oil extraction, paint and varnish manufacture.

LANCASTER.—The Storey Institute Technical College.—Evening or day classes in applied science and for matriculation; fees, 5s. 6d. to 15s. 6d. per session.

Leeds.—University.—Degree courses in science; composition fee, £42. College of Technology.—Courses for A.I.C., College diploma and National certificates.

LIVERPOOL.—University.—Degree courses in science.

LONDON

Imperial College of Science and Technology, South Kensington, S.W.7.—This college includes as integral parts the Royal College of Science, the Royal School of Mines and the City and Guilds (Engineering) College. The pre-graduate courses of study lead up to an associateship and B.Sc. degree in biology, botany, chemistry, geology, mathematics, physics and zoology at the Royal College of Science; in mining, mining geology, metallurgy and oil technology at the Royal School of Mines; and in engineering (aeronautical, civil, electrical and mechanical) at the City and Guilds (Engineering) College. Candidates for admission to associateship and B.Sc. courses should have qualified for matriculation at the University of London, and they must satisfy College requirements as stated in the calendar. Post-graduate courses and research may be undertaken by qualified candidates in all the subjects stated, and many others which are detailed in the prospectuses. The post-graduate work may lead up to the diploma of membership of the Imperial College and to the M.Sc., Ph.D., or D.Sc. of the University of London. There are many fellowships, scholarships and prizes available for award. Any of the college prospectuses will be sent free on application to the Registrar, Imperial College, S.W.7.

Battersea Polytechnic, Battersea Park Road, S.W.11.—Degree

Battersea Polytechnic, Battersea Park Road, S.W.11.—Degree courses for B.Sc. (University of London) and for A.I.C. The course for full-time day students extends over three years, and for evening students five years. Courses for F.I.C. (branch E.). Evening courses in chemical technology include food and drugs, bacteriology, oils, fats and petroleum technology and photography. Facilities are available for research work.

Birkbeck College (University of London), Breams Buildings, Fetter Lane, E.C.4.—Complete evening courses for University of London science degrees. Composition-fees for Intermediate or Final science examination, £5 per term, or £12 per session.

Borough Polytechnic, Borough Road, S.E.II.—Courses on foodstuffs, bacteriology, cold storage and refrigeration, oils, colours and varnishes, printing inks, synthetic resins and plastic moulding.

varnishes, printing inks, synthetic resins and plastic moulding. Classes in chemistry are also held.

Chelsea Polytechnic, Manresa Road, Chelsea, S.W.3.—Day and evening courses in chemistry and botany leading to the B.Sc., M.Sc. and Ph.D. Degrees of London University and the A.I.C. (Institute of Chemistry). Special courses for F.I.C. (Food and Drugs). Classes in applied chemistry, hydrogen ion measurements, dyes and drugs, photomicrography, etc. Research in physical, organic and cellulose chemistry. Fees: day, £21 per session; evening, £1 to £3 per session (three terms).

King's College, Strand, W.C.z.—Courses are available in the faculty of natural science for students preparing for B.Sc. degree and Institute of Chemistry examinations. Annual fees: Intermediate course,

136 15s.; Final course, £52 10s.

Northern Polytechnic, Holloway, N.7.—The composition fees for the Intermediate and Final B.Sc. courses are: Day, £20 per session; evening, from 12s. 6d. to 50s. per session. Evening classes in chemistry, botany, zoology, physics and photography cost from 8s. 4d. to 50s. per session.

Queen Mary College, Mile End Road, E.I.—Courses for intermediate and final first degree examinations in science and courses of research for higher degrees. Fees, undergraduate, £22 10s. per session; post-graduate, £17 5s. per session.

Royal Holloway College, Englefield, Surrey.—For women students only, mainly residential. The college is a school of the University of London, and the degree courses include science.

Sir John Cass Technical Institute, Jewry Street, Aldgate, E.C.3.—Day and evening courses in chemistry; physics; zoology; botany; metallurgy. Evening courses in mathematics; bacteriology; brewing; malting; biology; geology and fuel and petroleum technology. Sessional fees (September to July); evening, zos. one evening per week, 35s. two evenings per week, plus ros. for each additional evening per week; those under eighteen and those between eighteen and twenty-one engaged in trade are admitted at half fees. Day, full time, £20 per session; part time, £2 per session for each morning or afternoon per week.

University College, Gower Street, W.C.I.—Fees for B.Sc. (general or special) course for three sessions amount to £147. Facilities for pcst-graduate study: fee, £29 8s. for two sessions, and £22 Is. for one session. Reduced fees in the case of honours graduates who have taken their undergraduate course at the college.

Wandsworth Technical Institute, High Street, Wandsworth, S.W.18. Day and evening classes in chemistry, physics and botany. Fees: day, according to course; evening, full course, 12s. 6d. (under eighteen); 15s. (eighteen to nineteen); 20s. (nineteen to twentyone); 30s. (over twenty-one years of age).

West Ham Municipal College, Romford Road, E.15.—Day and evening classes for B.Sc. (London). Fees: day, £9 9s. to £18 18s.; evening, West Ham, East Ham, Middlesex and London students: Inter. B.Sc. course, £1 15s. Final B.Sc. course, £2 5s. Other students at double fees.

Manchester.—Victoria University.—Courses for B.Sc. degree in science. These include ordinary, honours and general honours courses. The degrees of M.Sc., Ph.D., and D.Sc. are conferred on graduates for research.

College of Technology also provides specialised instruction in applied chemistry, leading to the Manchester University degrees of B.Sc. Tech., M.Sc. Tech., and Ph.D., and to certificates in the Faculty of Technology. Evening courses are held for the A.I.C. examination.

Tutorial College (Grime's).—Revision course in botany, chemistry and physics.

Newcasile-upon-Tyne.—Armstrong College (University of Durham). Degree course in pure science, fee: £35 per annum. Registration fee, etc., extra.

Norwich.—Technical College.—Day classes are held in chemistry, physics and biology and evening classes in botany, chemistry and physics.

Oxford.—University.—For particulars apply to the Registrar. Schools of Technology, Art and Commerce.—Evening classes in chemistry.

PLYMOUTH AND DEVONPORT.—Technical College.—Day and evening courses for B.Sc. London, and less advanced classes in scientific subjects. Sessional fees: Day, £18 15s. to £25; part-time day classes or evening classes, £4.

PORTSMOUTH.—Municipal College.—Instruction in science and in technological subjects. Fees, £2 2s. to £8 8s. per term for full-time day courses; 7s. 6d. to 35s. per session for evening courses.

Preston.—Harris Institute.—Full time day course for Inter. B.Sc. Evening classes for A.I.C., B.Sc. and National certificates.

Reading.—University.—B.Sc. course, £35 per session. Preliminary scientific examination of the Pharmaceutical Society, £28 per session. Evening classes in physics, chemistry and botany.

ROCHDALE.—Municipal Teclinical School.—Evening classes in chemistry and botany.

St. Andrews.—United College.—Inclusive fee for courses for B.Sc. degree in pure science, £94 rcs.

SALFORD.—Roval Technical College.—Three years' full-time day course in chemistry and applied chemistry for which a diploma, endorsed by the Board of Education, is awarded. Day diploma and evening courses in chemistry and physics are recognised by the Institute of Chemistry.

Shiffele.—University.—Degree courses in science. The composition fee for a three-year course is £105, payable in three annual instalments of £35.

Southampton.—University College.—B.Sc. course composition-fee, £32 per session. Evening classes in science subjects, 12s. 6d. to £5 per course.

SWANSEA.—University College.—Day courses are held for degrees in science. Composition fees for a full-time degree or diploma course in pure or applied science, £20 per session.

WIGAN.—Wigan and District Mining and Technical College.—Full-time day courses in chemistry and general science for honours degree (B.Sc. of London University), A.I.C. and National certificates in chemistry. Part-time day and evening courses.





Optics

For chemists who desire to cultivate the professional side of business there is probably no better outlet for their activities than the practice of optics. Large sums of money are being spent on optical benefit under National Health Insurance, but almost without exception the optician is required to possess a diploma granted by one of the recognised examining bodies. Actually in Great Britain no qualification is required to practise as an ophthalmic optician, but it is advisable to possess documentary evidence of training and examination. In fact it cannot be too strongly urged that an effort should be made to pass one of the examinations of the highest standard, as the knowledge gained will be of great value in dealing with patients. If possible chemists should take the full-time course at one of the schools mentioned below, but many have successfully pursued their studies mainly by correspondence. Matriculation or equivalent standard of preliminary education is required by one examining body. Scholarships are available at the Northampton Polytechnic Institute, London, and to students about to prepare at certain centres for the examinations of the British Optical Association.

Diploma Schemes

The Worshipful Company of Spectacle Makers holds its examinations (a) Fellowship, (b) Honours, in London twice yearly and occasionally in the provinces. The former is divided into three parts; candidates over the age of seventeen years may enter for Part I, but not for Parts II and III until they have attained eighteen years. The diploma cannot be taken up before the age of twenty-one. No candidate is passed in any section of Parts II or III unless he has satisfied the examiners in Part I. The Honours examination, the syllabus of which has recently been revised, is open to those who have passed the Fellowship examination at least twelve months previously, and is a more advanced test for those who are interested in the fundamental principles of their work. The fees are as follows:—Fellowship: Part I £4 4s., Part III £3 3s.; Honours: £5 5s. Full particulars of the examinations may be obtained from the Clerk to the Company, 36 Furnival Street, London, E.C.4.

The British Optical Association, Brook Street, London, W.I., conducts a Preliminary, a Dispensing, a Fellowship, and an Honours examination, the first-named being in general education and the others in optics. No candidate will be accepted for the Fellowship examination who has not previously passed the Preliminary or an examination of matriculation standard. Fellowship candidates, prior to examination, must submit evidence of at least 500 hours' training in mechanical and technical optics, 100 hours' clinical training, and attendance at an approved course in clinical experience specifically arranged with abnormal or pathological subjects at a recognised institution, and of twelve months' employment or business training with an approved optical firm or optician. This evidence to be in addition to the mechanical and technical training. The examination fees are:—Preliminary, £2 12s. 6d.; Dispensing, £2 2s.; Fellowship, £10 10s.; Honours, £5 5s. The Preliminary examination is held annually and written papers of the Fellowship and Honours examinations are held twice yearly. The full prospectus, together with a list of the approved institutions, may be obtained from the secretary.

The National Association of Opticians has instituted a Fellowship Diploma scheme, examinations for which are held two or three times yearly, usually at Birmingham, Liverpool and Glasgow. Candidates must present certificates of approved preliminary education. They must also provide evidence of practical experience in optical work and of attendance at an approved course of study. Pharmacists, subject to certain conditions, are at present exempt from the First examination. The fees are £3 3s. for the First and £5 5s. for the Final. The examination syllabus and entrance forms may be obtained from the Secretary, N.A.O., 130 Princes Road, Liverpool, 8.

Optical Instruction

The following are among the principal schools where the necessary instruction in preparation for the examinations may be obtained:—

Northampton Polytechnic Institute, St. John Street, London, E.C.I.—The courses provided by the Department of Applied Optics are organised in two divisions, namely (1) for ophthalmic and dispensing opticians and (2) for optical engineers, optical instrument makers, glass workers and spectacle makers. In the ophthalmic section complete theoretical, practical, clinical and workshop training is provided, by means of day courses and evening courses, in extensively equipped laboratories, workshops and clinic. The courses cover the ground required for the Fellowship and Honours examinations of the S.M.C. and B.O.A. Scholarships tenable at the two-years' full-time day courses are offered by the Worshipful Company of Spectacle Makers, The Aitchison Memorial Fund and the Governing Body of the Polytechnic; the British Optical Association offers scholarships tenable in the day or evening courses. The prospectus and full particulars will be sent on application to the secretary.

The School of Optics, Ltd., 2 Guilford Place, London, W.C.1, prepares students for all of the recognised qualifying examinations. It is well-fitted up and thorough training is given. The complete full-time course of from six to twelve months' duration (fee £31 ios.), which commences in May and November of each year, covers the entire syllabus of all the recognised examinations. The part-time combined course (fee £14 14s.), which can be commenced at any time, consists of homework by correspondence, supplemented by classes held during the month preceding the examination, and on Wednesday and Thursday afternoon of every week. The School is fully recognised by the British Optical Association for mechanical, technical and clinical training, and clinical experience.

British Optical Institute, Ltd., Fern Lodge, 20A Grove Road, Brixton, London, S.W.9.—Full courses cover the entire syllabus of each optical examination. Afternoon classes and clinic, at which both normal and abnormal cases are dealt with, are held all the year round on two days a week in order to enable students to carry out all branches of practical work. Evening classes are held during the three months and daily revision classes during the month preceding each London examination of the B.O.A. and S.M.C. There has also been arranged a correspondence course which is recognised as part of the 600 hours' mechanical and technical training required by the regulations of the British Optical Association. The Institute is a recognised training centre for all sections of the Fellowship examinations in connection with the regulations of the B.O.A.

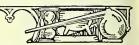
REFRACTION HOSPITALS.—The lectures and demonstrations arranged in connection with the granting of the hospital certificate commence in October. The subjects include physiology, pathology, embryology, methods of examination, use of drugs and hospital routine. Post-graduate students in ophthalmic optics may attend the hospital without taking the examination. The three hospitals have been recognised by the British Optical Association for clinical experience. The London and Glasgow Hospitals now give complete optical training for the S.M.C. and B.O.A. examinations. Full particulars can be obtained from 58-60 Newington Causeway, London, S.E., or 51 St. Paul's Street, Leeds, or 26-28 Richmond Street, Glasgow, C.I.

Mr. C. A. Scurr, F.S.M.C., F.B.O.A., chemist and druggist, 50 High Street, Barnet, prepares candidates for either of the foregoing examinations. The courses, being mainly correspondence, are particularly suitable for those desiring an optical qualification by spare-time study. The practical work is usually performed during a visit.to London, when the practical and revision classes are held, just prior to the examination. The fees vary from £5 5s. to £9 9s., according to the examination.

Central Technical College, Suffolk Street, Birmingham, has three-year part-time courses which meet the requirements of the British Optical Association and the Spectaclemakers' Company.

Cardiff Technical College is providing a course of training for students who intend to become ophthalmic or dispensing opticians. The full course extends over two years,





covering the ground required for the Honours and Fellowship examinations of the British Optical Association and other examinations of a similar character such as those of the Worshipful Company of Spectacle Makers.

MUNICIPAL COLLEGE OF TECHNOLOGY, Manchester, provides a full-time day course in applied optics extending over a period of two years. Candidates are required to pass an entrance examination (unless they have passed an approved equivalent examination), on which also a British Optical Association scholarship of the value of £40 per annum is awarded. The College also conducts evening classes which cover the examination syllabuses of, and which are recognised by, the British Optical Association.

North Staffordshire Technical College, Stoke-on-Trent, is a recognised institution under the British Optical Association's regulations for mechanical, technical and clinical training.

RUTHERFORD TECHNICAL COLLEGE, Newcastle-upon-Tyne, conducts courses of lectures and laboratory work designed to meet the requirements of students preparing for the B.O.A., S.M.C. and similar examinations. The full training extends over three years (three evenings per week) and the fees range from 30s. to 35s.

West Ham Municipal College, Romford Road, Stratford, London, E.15, holds classes in pure and applied optics, suitable for ophthalmic, dispensing and instrument opticians, and cover the syllabuses of the optical examinations. The College is recognised by the British Optical Association for mechanical and technical training. Apply for prospectus and other particulars to the Principal.

SWANSEA MUNICIPAL TECHNICAL COLLEGE is providing a parttime course in optics, particulars of which will be sent on application.

The Institute of Chemists-Opticians, 285 Brompton Road, London, S.W.3, conducts a postal and practical course in optics, the fee being £6 6s. The Institute also conducts an examination for which the fee (if the five sections are taken at one time) is £3 3s. The prospectus may be obtained on application from the secretary, Mr. J. J. Laws, at the above address.

THE COLLEGE OF OPTICS, 70 Bothwell Street, Glasgow, conducts full-time, part-time and postal courses. The Principal is Mr. T. S. Baird, F.S.M.C., F.R.M.S.

HERIOT-WATT COLLEGE, Edinburgh, has arranged a course in

Heriot-Watt College, Edinburgh, has arranged a course in ophthalmic optics which extends over three years and meets the requirements of the Worshipful Company of Spectacle Makers and the British Optical Association. The course has been recognised by the latter body for mechanical, technical and clinical training.

Veterinary Surgery

It is interesting to note that while for many years prior to 1934 there was a steady diminution in the numbers of the veterinary profession, during the past two years a slight increase has been shown, but the supply is not expected to overtake the demand for many years. Indeed, in certain branches of the profession the demand has been notably increased. It is true that the work of the practitioner has changed in character, for while the horse is less important, other farm animals are more valuable, and pets are receiving more attention. To practise as a veterinary surgeon it is necessary to possess the membership certificate of the Royal College of Veterinary Surgeons (10 Red Lion Square, London, W.C.1). This College is an examining body, so that professional education must be obtained at one of the affiliated veterinary colleges. Examinations are held simultaneously in London, Liverpool, Edinburgh, Glasgow and Dublin in July and December each year. The examination fee payable to the Royal College of Veterinary Surgeons is £6 6s. for each examination. Candidates referred in one subject pay a fee of £4 4s. for each reexamination. A student who desires to become a veterinary surgeon must attend college for at least five sessions of thirty weeks each, and pass five professional examinations. Prior to admission as a student he must pass an examination in general education. Candidates over twenty-one years of age who are

not in possession of one of the recognised certificates in general education, may under exceptional circumstances be admitted to the veterinary course at the discretion of the Council, provided they submit with their application evidence of previous education. A number of scholarships are available.

Veterinary Colleges

London.—Royal Veterinary College (founded 1791; incorporated 1875), Great College Street, Camden Town, N.W.1.—Educational fee for five years' course of instruction, £131 5s., may be paid in five instalments. There are also library and other fees amounting to £15. Fees for occasional students are from £3 3s. to £8 8s. per subject, and for those taking the B.Sc. degree in veterinary science of the University of London additional fees totalling £15 15s. The prospectus may be obtained on application to the secretary.

on application to the secretary.

EDINBURGH.—Royal (Dick) Veterinary College, Summerhall (founded 1823).—Class fees for the complete curriculum amount to approximately £135. There is also a matriculation fee of 10s. 6d. and an athletic fee of 10s. payable by all students at the beginning of each session. Principal, O. Charnock Bradley, M.D., D.Sc., M.R.C.V.S.

GLASGOW.—Glasgow Veterinary College (established 1862; incorporated 1909), Buccleuch Street, Garnethill.—Full particulars are obtainable from the secretary. Principal, Professor A. W. Whitehouse, M.A., M.R.C.V.S.

Culars are obtainable from the secretary. Principal, Professor A. W. Whitehouse, M.A., M.R.C.V.S.

DUBLIN.—Veterinary College of Ireland, Shelbourne Road, Ballsbridge.—The College is conducted by the Department of Agriculture. The tuition fees amount to £25 for each session. Principal, Professor J. J. O'Connor, M.R.C.V.S. Particulars may be obtained from the Registran.

Lymphol.—The University Veterinary School gives a

LIVERPOOL.—The University Veterinary School gives a university training for the M.R.C.V.S. and also for a veterinary degree. For the fees and complete curriculum application should be made to the Director.

A member of the Royal College who has been engaged in the practice of his profession for two years or upwards may present himself for examination for the diploma of Fellowship (F.R.C.V.S.). Veterinary science degrees are granted by several universities, including Edinburgh, Liverpool and London.

Chiropody

As an auxiliary department, chiropody appeals to many chemists. Courses of training and status conferred by qualification vary with the schools, of which there are a number in London and provinces.

Under the auspices of the Incorporated Society of Chiropodists, 21 Cavendish Square, London, W.1, which acts as an examining body, two-year courses are organised at the Edinburgh School of Chiropody, Glasgow and West of Scotland College of Chiropody, London Foot Hospital School of Chiropody (33 Fitzroy Square, W.1), and Manchester School of Chiropody. Students successful in the examinations are eligible for membership of the Society (M.I.S.Ch.).

The Chelsea School of Chiropody (Chelsea Polytechnic). The school provides day courses of two years' duration for young students and of one year's duration for students over twenty. An evening course of study extends over four terms. Successful students are given a certificate and are entitled to become members of the Chelsea Chiropodists' Association. The Chelsea School is the only one under public authority.

NATIONAL SCHOOL OF CHIROPODY, associated with the Islington Free Foot Hospital, 133 Upper Street, Islington, London. N.I. A six-months' full-time course terminates with a graduating examination which qualifies the graduate to become a member of the National Institute of Chiropody and to use the letters M.N.I.Ch. on payment of the yearly subscription of

NATIONAL SCHOOL OF CHIROPODY, Manchester, is associated with the National School, Islington, to whose courses and diplomas its own correspond.

School of Surgical Chiropody, 5 Smae Institute, Leatherhead, offers home courses leading to qualification for school certificate (M.S.S.Ch.).

Fairchild Scholarships and Prizes

THE 1936 examination for the Fairchild scholarship and prizes was held on June 17 at the following centres:
Belfast (supervisor, Mr. D. L. Kirkpatrick), Cardiff
supervisor, Mr. Rees Vernon Lloyd, B.Ph., Ph.C.), Edinurgh (supervisor, Mr. Peter Boa, Ph.C.), London (supervisor,
Miss Maddock), Manchester (supervisor, Mr. K. Bullock, Ph.D., F.I.C., Ph.C.). Thirty-four candidates complied with Il the conditions and sat for this year's examination, of whom wenty-nine represented England, one represented Ireland, two represented Scotland, and two represented Wales. The puestions for the examination were set and assessed by Mr. Harry Brindle, B.Sc., F.I.C., Ph.C. (chemistry and physics); Mr. Peter Boa, Ph.C. (practical pharmacy and prescription-reading); Mr. T. Marns, M.P.S. (business knowledge and sale f poisons); Professor J. Small, D.Sc., Ph.C., F.R.S.E. (botany and pharmacognosy). The following awards have

Mr. Robert Pierce obtained the highest marks and was awarded the Fairchild scholarship, value £60. Mr Pierce was apprenticed to H. S. Martin &

Co. (Savory & Moore, Ltd.), Hurstpierpoint, afterwards continuing with Messrs. Savory & Moore at 71 East Street, Brighton.

Mr. Isaac Michaels obtained the England prize of £5. Mr. Michaels was apprenticed to Mr. A. Tennant, 29 Sussex Place, London, S.W.7, afterwards going to Stickland & Co., 41 Alfred Place, S.W.7.

Mr. Kenneth Handy came third and obtained the Wales prize of £5. Mr. Handy was apprenticed to Mr. Robert Bruce, Crane Street, Pontypool, where he is still employed.

Mr. Robert Auld Crawford obtained the Scotland prize of £5. Mr. Crawford was appren-

ticed to the Glasgow Corporation Public Health Department, Ruchill Hospital, and was afterwards at the Central Drug Store, Edinburgh.

No award could be made for Ireland.

MR. ROBERT PIERCE

Out of the thirty-four candidates who entered for the examination twenty-four received over 50 per cent. of the

The following is the text of the papers:—

CHEMISTRY AND PHYSICS (Time allowed—two hours)

(Use equations to represent chemical reactions where possible.)

(1) What do you understand by heat of vaporisation? Describe how you would determine the heat of vaporisation of alcohol, explaining the precautions you would take to obtain a reasonably high degree of accuracy.

(2) Explain briefly the following terms, giving examples from everyday life: -(a) Regelation, (b) heat radiation, (c) semi-permeable membrane, (d) electrical capacity, (e) horse-power.

(3) Indicate the method you would use for effecting the separation and proving the presence of arsenic, antimony and tin radicals in ordinary qualitative analysis. Explain as far as you are able the chemical reactions which take place during the process you describe.

(4) Give general methods which are available for the preparation of the oxides of metals, indicating specific examples of each method.

(5) Outline different methods which are used for the production of nascent hydrogen. Give one example from inorganic or organic chemistry of the use as a reducing agent of the hydrogen generated by each method you describe.

> PRACTICAL PHARMACY AND PRESCRIPTION READING (Time allowed—one hour and a half)

(1) Describe the official directions for preparing:—(a) Tincture of myrth. (b) Pill of iron carbonate. (c) Fresh infusion of senna. (d) Phenol ointment.

State the proportion of myrrh soluble in the menstruum of (a); the principal constituents of (b) and the proportion of ferrous carbonate in the finished pill mass; the proportion of active constituent in (c); the proportion of active ingredient in (d).

- (2) Suggest suitable excipients for preparing pills of salicylic acid, powdered rhubarb, quinine sulphate, exsiccated ferrous sulphate, with little increase in bulk.
 - (3) Supply the metric equivalent of 20 grains, 1½ drachm, and ½ oz.
 - (4) A prescription calls for:→

Menthol 2 per cent. Cocaine hydrochloride . . 1 per cent. Zinc ointment . . . to 1 oz.

How should this be compounded? Specify the quantities to be used.

(5) Ammon. chloridi Ammon. cmontal Ext. glycyrrhizæ liq. Aq. aurantii flor. ... Aq. chloror.
Misce fiat mistura.

Sig:—Capiat coch. med. ex aqua post cibos.

Something undesirable may occur in this mixture. What may it be, and the remedy?

Habeat glycerini aluminis .. 5j. Sig.:—Nom prop.

Business Knowledge and Sale of Poisons

(Time allowed—one hour)

- (1) (a) What records have to be kept by the pharmacist when he takes dangerous drugs into stock?
- (b) State the conditions governing the storage of dangerous drugs in the pharmacy.
- (2) Name the classes of persons to whom special authorisation is granted, and state what dangerous drugs each class may be supplied
- (3) (a) To which book and which account do you post the total of the sales book?
- (b) On what side in the cash book would you enter discount ed to you? To which side in the bought ledger would the allowed to you? same be posted?
- (c) If a trader was insolvent, state whether his assets or liabilities would be the greater.
- (4) Enter the following items into a form of columnar petty cash book; show the agreement between the total and subsidiary columns, bring down the balance and state where the various totals would be posted.

			£	S.	d.
Jan.	1, 1936.	Balance brought forward		10	0
		Postage	1	10	ī
		Insurance stamps	15	0	0
,,	2	Received from bank		14	6
		Cleaning—shop and windows		10	6
		Travelling expenses		2	3
,,	3	Small repairs to shop	1	ю	3
,,	4	Carriage		2	8
		Stationery		6	0
,,	7	Purchases for cash	1	5	0
		Repaid to bank	4		0
,,	8	Postage		10	0
**	9	Cleaning—shop and windows		10	6

BOTANY AND PHARMACOGNOSY

(Fime allowed—one hour)

(1) Enumerate the tissues which occur in a medicinal bark. Compare quereus cortex with any one bark which is now official, giving diagrams to illustrate differences and similarities in structure.

(2) Compare and contrast the production in storage, in the plant, of fixed oils and volatile oils, illustrating your account with line drawings of the structural features involved in each type of storage.

(3) Give a general account of latex and laticiferous tissues, with special reference to (a) opium, (b) dandelion juice, and (c) rubber.

JAPANESE SODA.—The "Yakugyo Shuho" claims that the quality of bicarbonate of soda produced in Japan is now superior to that of Western countries. Exports now equal domestic deniand, being about 600 tons per month.

FLORA OF SURINAM.—We have received a copy of a section of Vol. II of the "Flora of Surinam," edited by Dr. A. Pulle, of the University of Utrecht. The work is printed in English (price 7.80 fr.) by J. H. De Bussy, Ltd., Amsterdam.

Pharmacy on Parade

CHEMISTRY OF LIFE
MODIBIOLA AGENTS II DIGESTION A STREETION

REPART OF ELIMINATION

IN THE DIOCHEMISTRY OF ELIMINATION

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Exhibit of the Philadelphia College of Pharmacy and Science at the "Philadelphia on Parade" Exposition, May 1936.

[By Courtesy, Philadelphia College of Pharmacy and Science, Philadelphia, Pennsylvania, U.S.A.

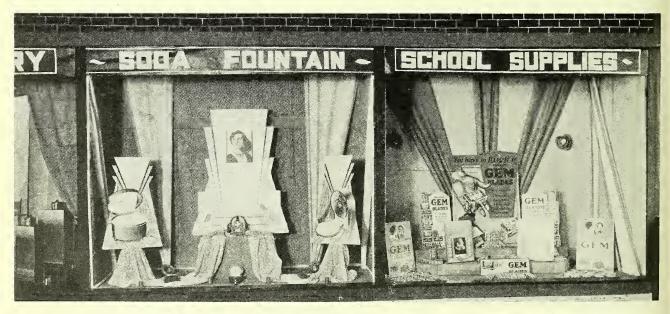
A portrayal of the activities of the medical, scientific, and public health agencies of the City of Philadelphia, and of its manufactures and industries is given as part of an annual exhibition entitled "Philadelphia on Parade."

The exhibit illustrated was designed by the staff of the

The exhibit illustrated was designed by the staff of the college to show the biochemistry of digestion and excretion processes. Diagrammatic plans and actual models of the digestive system; a detailed explanation of each of the parts of the

body that are concerned with the process of digestion; the chemical composition of various organs, body fluids, catalysts and reagents; were included in the display.

Motion pictures and lantern slides illustrated the action of various drugs on test animals; live test animals were also shown. The exhibit was under the direction of Dr. Arno Viehover, Ph.D., Ph.C., F.C., Research Professor in Biology at the Philadelphia College of Pharmacy and Science.



Displays by students in the model windows of the School of Pharmacy, State College of Washington, Pullman, Washington, U.S.A.

Trade Report

Vhere possible scales of prices of chemicals are given for bulk down to small quantities. Prices recorded for crude drugs, ssential and fixed oils and coal tar products are for fair sized wholesale quantities. Qualities of chemicals, drugs, essential and fixed oils, etc., vary, and selected brands or grades would be at higher values

28 Essex Street, W.C.2, August 13

NCREASES in price are, we understand, imminent in MERCURIALS, nd may be expected as soon as new scales have been decided upon. The dearth of MERCURY in London has been unrelieved and it is lifficult to feel reassured that supplies are likely to be received n the near future. Ergor chemicals may also be expected to dvance in price, for reasons discussed under "Crude Drugs." Business has been quiet and steady in most fine and pharmaceutical hemicals during the week.

Crude Drugs

The lay press has reported that Spanish cereal crops are uncut and lie ruined. If the accounts are to be accepted, Ergor is equally affected and serious shortage may result. At present, it is clear that there is no Spanish ergot to be had. Nor has any Russian arrived. Portuguese has consequently risen sharply and may advance still further. In most other commodities the tone of business has been quiet and steady, and "Mr. So-and-So is on holiday" is commonly heard from firms whose buyers figure frequently in "the Lane." Reports on Cascara from the source are somewhat conflicting, but it is obvious that some shortage exists and prices are again higher. Spot supplies are depleted, the 1935 stocks having been almost cleared at a good price. Older matured barks also fetch firmer prices. Further interest has been shown in Derris in forward positions. Hyddrastis is firmer, both on the spot and for shipment. Menthol has sold well, although the shipment prices are easier. French Red Roses appear in our report. The rose season in France is stated to have been poor and the total of blooms gathered below standard. Seneda for shipment is firmer. White grades of Tragacanth are scarce, medium grades are becoming exhausted and interest has been shown in the cheaper manufacturing grades.

Essential Oils

Commerce in the essential oils has been quiet, and price changes have been few. One of the most important and significant is the sharp increase in both British and foreign expressed Almond oil, following a rise in price of the almonds themselves under the influence of the Spanish political situation. Star Anise still has no sellers at the source. Cinnamon is easier. Eucalyptus is decidedly firm and some shortage is apparent. Distillation of French Lavender has now commenced; a report from one region suggests that, on the first estimate, the yield will be some 20 per cent. less than last season. Japanese Peppermint has been in good demand, and forward prices are firmer. Rosemary is not to be had on spot; high prices have at any rate been offered without acceptance. It is doubtful, too, whether sellers of Spanish Spike are to be found at the moment.

Exchange Rates on London

THE following is a list of the chief Continental and other exchange rates at the opening on Thursday morning:—

Centre	Quoted	Par	August 13	Value of the £		
Amsterdam Berlin Brussels Copenhagen Lisbon Madrid Milan Montreal New York Oslo Paris Prague Stockholm Warsaw Zurich	Fis. to f Mks. to f Belgas to f Kr. to f Esc. to f Ptas, to f Dol. to f Kr. to f Fr. to f Kr. to f Fr. to f Fr. to f Fr. to f	12·107 20·43 nominal 18·159 110 25·22\frac{1}{2} 92·46 4·86\frac{1}{4}·86\frac{1}{4}·109 124·21 164·25 18·150 43·38 25·2115	7.39\$ 12.48 29.81 20.40 110\$ 39\$ nominal 63\$ 5.02\$ 5.02\$ 19.90 76\$ 121\$ 19.39\$ 26\$ 15.40	12/2½ 12/2½ 12/2½ 17/1 24/8 20/0 31/1½ 20/7½ 20/7½ 20/7½ 21/11 12/34 14/9½ 21/1½ 21/1½ 21/23 12/24		

Bank rate 2 per cent.

Pharmaceutical Chemicals, etc.

ACETANILIDE.—B.P. crystals and powder, 18. 5½d. to 18. 8d. per lb., as to quantity.

Amidopyrine.—Business quiet at the following prices: crystals, five cwt., 18s. 0\(^3\)d.; two cwt., 18s. 5\(^1\)d.; less than two cwt., 18s. 10\(^1\)d. per lb., with powder 2\(^1\)d. per lb. extra.

Ammonium ichthiosulphonaif.—Prices continue keen, but business has been only moderate: one cwt., is. 6½d., in 14-lb. tins; is. 8d., in 1-lb. tins; is. 10½d., in 8-oz. tins, and 2s. 1d. per lb., in 4-oz. tins.

Barbitone.—Spot, one cwt., 15s. $3\frac{3}{4}$ d.; 56 lb., 15s. 8d.; small parcels, up to 16s. 3d. per lb.

Benzoic acid (B.P.).—Prices for quantities, ex works, is. 9½d. per lb.; spot parcels, is. iod. to 2s. 3d. per lb., ex store, as to quantity.

BISMUTH SALTS.—Makers' scales of prices unchanged: Carbonate, B.P., one cwt., 6s. 6d.; 28 lb., 6s. 9d.; 8 lb., 7s. 3d.; less than 8 lb., 8s. 6d. per lb., with rebates on contracts for larger quantities.

BUTYL CHLORAL HYDRATE.—Spot, 14 lb., 8s.; 7 lb., 8s. 3d.; 1 lb., 8s. 6d. per lb., in 1-lb. bottles.

CATIENE.—There has been no change in the scale of prices agreed upon by the Continental makers: pure alkaloid, two cwt., 7s. 1od.; one cwt., 8s.; 56 lb., 8s. 2d.; smaller quantities, 8s. 4d. per lb., delivered, 5-lb. tins free, smaller packing extra. Citrate, two cwt., 5s. 5\(\frac{3}{4}\)d.; one cwt., 5s. 6\(\frac{3}{4}\)d.; 56 lb., 5s. 7\(\frac{3}{4}\)d.; smaller quantities, 5s. 8\(\frac{3}{4}\)d.; ber lb., delivered. British material: pure, 56 lb., 8s. 4d.; less, 8s. 6d. per lb. Citrate, 56 lb., 5s. 9d.; less, 6s. per lb.

Calcium lactate.—Spot, one cwt., 1s. $0\frac{3}{4}d.$; 56 lb., 1s. $1\frac{1}{2}d.$; 28 lb., 1s. $2\frac{1}{2}d.$; smaller quantities, up to 1s. 6d. per lb.

CHLORAL HYDRATE.—Makers' prices continue steady: duty paid crystals, in 14-lb. free containers, five cwt., 3s. 1d.; one cwt., 3s. 2d.; 28 lb., 3s. 3d.; 14 lb., 3s. 4½d. per lb.; 28-lb. jars one penny per lb. extra.

COCMINE.—British makers' prices for this market for wholesale bulk quantities are as follows: Hydrochloride and Nitrate, 25 oz. and over, 29s. 6d.; 16 oz. and less than 25 oz., 30s. 9d.; over 8 oz. and less than 16 oz., 31s. 9d. per oz. Pure, Citrate and Salicylate, 25 oz. and less than 16 oz., 32s. 6d.; 16 oz. and less than 25 oz., 33s. 6d.; over 8 oz. and less than 16 oz., 34s. 6d. per oz., 16-oz. packages free, smaller packing extra. The scales of prices applicable to distributors of smaller quantities are as follows: Hydrochloride and Nitrate, 8 oz., 34s. 1d.; 4 oz. and less than 8 oz., 34s. 7d.; 2 oz. and less than 4 oz., 35s. 5d.; 1 oz. and less than 2 oz., 36s. 5d.; ½ oz. and less than 1 oz., 37s. 11d.; ¼ oz. and less than ½ oz., 40s. 11d. per oz. Pure, Citrate and Salicylate, 8 oz., 36s. 1od.; 4 oz. and less than 8 oz., 37s. 4d.; 2 oz. and less than 4 oz., 38s. 2d.; 1 oz. and less than 2 oz., 39s. 2d.; ½ oz. and less than 1 oz., 4os. 8d.; ¼ oz. and less than ½ oz., 43s. 8d. per oz., packages extra. Re-sale: Sales subject to buyers undertaking not to re-sell any quantity at below the scale price for such quantity current at the time of re-sale. These scales of prices do not apply to export business, particulars of which may be obtained from the usual sources of supply.

CREOSOTE (B.P.).—Bulk quantities, in 25-kilo. demijohns, 1s. 8d. to 1s. 9d.; small parcels, 1s. 9½d. to 2s. 3d. per lb., ex store.

Hexamine.—Fair average business continues at makers' competitive prices: B.P. powder, from 1s. 3d. to 1s. 4d.; free-running crystals, from 1s. 4d. to 1s. 8d. per lb., carriage paid, for bulk lots. Dealers' prices for smaller lots at slightly higher rates.

Iron Quinine citrate.—Makers' prices: not less than 100 oz., 10½d., in 100-oz. tins; in 25-oz. tins, 10¾d.; in 16-oz. bottles, 11d.; in 4-oz. and 8-oz. bottles, 11¼d.; in 1-oz. bottles, 1s. 0¾d.; less than 100-oz. lots, from 11d. to 1s. 4d. per oz., according to packing and quantity.

Lactic acid (B.P.).—Steady, unchanged: quantities, in carboys, 1s. 4½d. to 1s. 5d.; in winchesters and bottles, 1s. 6d. to 1s. 10½d. per lb.; as to quantity.

Mercurials.—No present change in makers' prices: chloride, B.P., not less than one cwt., 4s. 11d. per lb.; less than one cwt., from 5s. per lb. upwards, as to quantity.

Methyl salicylate.—Spot, ten cwt., is. $1\frac{3}{4}d$.; five cwt., is. 2d.; one cwt., is. $2\frac{1}{4}d$.; less than one cwt., is. $2\frac{1}{2}d$.; small quantities, in bottles, up to 2s. per lb.

Paraformaldehyde.—100 per cent. powder, quantities, in kegs, is. id.; smaller parcels, to is. 9d. per lb., as to quantity.

Phenacetin.—Crystals or powder, bulk quantities, 2s. 6d. to 2s. 7d.; smaller parcels, 2s. $7\frac{1}{2}$ d. to 3s. per lb., as to quantity.

Phenolphthalfin.—Quoted at: two cwt., 2s. 9d.; one cwt., 2s. 1od.; 28 lb., 3s.; 14 lb., 3s. 1d.; 7 lb., 3s. 2d.; smaller parcels, up to 3s. 6d. per lb.

PHENYL ETHYL BARBITURIC ACID.—2-lb., bottles, 25s. to 26s. per lb.

POTASSIUM PERMANGANATE (B.P.).—Inquiries continue to be mainly of-small dimension: druggists' parcels, from 10d. to 1s. per lb., as to quantity.

POTASSIUM SULPHOGUAIACOLAIE.—Competitive prices in the region of 6s. 3d. per lb. are not attracting much business.

QUININE SALTS.—The convention scale of prices, as recently advanced, continues steady; sulphate, 2s. 2d.; bisulphate, 2s. 2d.; ethyl carbonate, 2s. 9\frac{3}{2}d.; salicylate, 2s. 10\frac{1}{2}d.; hydrochloride, 2s. 8\frac{1}{2}d.; bihydrochloride, 3s.; hydrobromide, 2s. 8\frac{1}{2}d.; bihydrobromide, 3s.; valerianate, 3s. 8d.; hypophosphite, 4s.; alkaloid, 3s. 0\frac{1}{2}d. per oz., carriage paid on bulk quantities; 100-oz. tins free, smaller packages extra.

RESORCIN.—Prices for British: crystals, one cwt., 48. 11d.; 56 lb., 5s.; 28 lb., 5s. id.; 14 lb., 5s. 3d.; 7 lb., 5s. 6d.; less than 7 lb., up to 6s. per lb.

ROCHELLE SALTS.—The makers' recently reduced prices are according to the following table:—

	Pulv Sod.	Pulv.	Double
	Pot. Tart. B.P.	Seidlitz	Seidlitz
Under 1 cwt	Per cwt,	Per cwt.	Per cwt.
	s. d.	s. d.	s. d.
	77 6	62 6	69 o
	75 0	60 6	67 o
	72 6	58 9	64 g

Soda. Pot. Tart. Crystals, 2s. 6d. per cwt., extra. Casks free, carriage paid in United Kingdom on one cwt. or more.

SACCHARIN.—550, 37s. 6d. per lb., duty paid, with rebates for quantities.

Santonin.—Steady at the revised scale of prices announced last week: first hand, 10-kilo. lots, £20 11s.; 3-kilo. lots, £21; 1-kilo. lots, £21 15s.; less than one kilo, £22 15s. per kilo.; special prices for export buyers. Second-hand material at considerably less.

SODIUM BENZOATE (B.P.).—Average values: one cwt., is. 7d.; smaller parcels, is. 8d. to is. 10½d. per lb., as to quantity.

SODIUM DIETHYLBARBITURATE.—Spot, one cwt., 13s. 3d.; 28 lb., 13s. 6d.; 14 lb., 13s. 9d.; 7 lb., 14s.; smaller parcels up to 14s. 6d. per lb.

Sodium salicylate (B.P.).—Home trade, crystals or powder, five cwt., is. $5\frac{1}{2}$ d.; one cwt., is. 6d.; 28 lb., is. 9d.; i4 lb., is. iid.; 7 lb., 2s.; i lb., 2s. 3d. per lb.

SULPHONAL.—Crystals or powder, two cwt., 15s. 5\dd.; one cwt., 15s. 10\dd.; 56 lb., 16s. 1d.; smaller parcels, up to 16s. 9d. per lb.

Theobromine.—Prices for Continental material: pure, two cwt., 7s. 1od.; one cwt., 8s.; 56 lb., 8s. 2d.; smaller quantities, 8s. 4d. per lb. Sodium salicylate, two cwt., 6s. 3\frac{1}{4}d.; one cwt., 6s. 4\frac{1}{4}d.; 56 lb., 6s. 5\frac{1}{4}d.; smaller quantities, 6s. 6\frac{1}{4}d. per lb., delivered, 5-lb. tins free, smaller packages extra.

Vanillin.—Ex clove oil or guaiacol, five cwt., 12s. 9d.; one cwt., 13s.; 56 lb., 13s. 3d.; less, 13s. 9d. per lb.

Crude Drugs, etc.

ACONITE ROOT.—On the spot, Japanese quoted at 45s. per cwt

AGAR.—The spot demand is slow, and there have been no price changes during the week: spot, Kobe No. 1, 2s. 7½d.; No. 2, 2s. 5d.; Yokohama No. 1, 2s. 4½d. per lb.; shipment, Kobe No. 1, 2s. 5d.; No. 2, 2s. 2d.; Yokohama No. 1, 2s. 1d. per lb., c.i.f.

ALOES.—There have been no further offers of Cape, although orders at 55s., c.i.f., have been cabled. Curação has been selling slowly on spot at 95s. to 110s., as to quality; shipment, September-October, 84s., c.i.f.

Antimony.—Chinese crude, August-September, shipment, £23, c.i.f.; spot, English regulus, £64 10s. to £65 10s.

BUCHU.—The price for rounds seems firm at 3s., although business is reported done at 2s. 10½d.; ovals, 2s. 5d. to 2s. 6d.

Camphor.—Steady routine business has been done, with values unchanged at the following prices: Japanese, spot, tablets, 2s. 5d.; powder, 2s. 2\frac{3}{4}d.; slabs, 2s. 2\frac{1}{4}d. per lb., duty paid; shipment, tablets, 2s. 1\frac{1}{4}d.; powder, 2s. 0\frac{1}{4}d.; slabs, 1s. 11\frac{3}{4}d. English refined flowers, one cwt., 3s. 1d.; 28 lb., 3s. 2d.; small lots, 3s. 3d. per lb. Transparent tablets, 4 oz., 8 oz. and 16 oz., 3s. 4d.; 1 oz. and 2 oz., 3s. 5d.; \frac{1}{2} oz., \frac{1}{3} oz., and \frac{1}{4} oz., 3s. 6d. per lb. Contracts at special

Cantharides.—Small spot business: Chinese, duty paid, 2s. per lb., as to quantity; shipment, September-October, 1s. 5d.

Cardamoms.—Quiet: Bombay, spot, 4s. 2d. per lb.; to arrive, 3s. 10\frac{1}{2}d., c.i.f. Aleppy green, new crop, quoted at 2s. 8\frac{1}{2}d., c.i.f., for shipment, October-November.

Cascara sagrada.—Considerable shortage appears to exist at the source, and few offers are forthcoming at 48s. 6d. to 52s. 6d., c.i.f. On the spot, there is a good demand for matured bark. 1935, at 60s., is practically cleared; 1933 is offered at 65s. per cwt.

Chamomiles.—New crop steady at about 125s. per cwt., duty paid, for first pickings.

CLOVES.—Zanzibar cloves are fractionally higher on spot, otherwise no change: Zanzibar, spot, 7\(^1\)d.; shipment, August-September, 7\(^1\)d. per lb., c.i.f.; Madagascar, spot, in bond, 7\(^1\)d.; shipment, August-September, 7d. per lb., c.i.f.

The landings of Zanzibar in London during the week ended August 8 were 100, and the deliveries 125, leaving a stock of 1,578. From January 1 to date the landings of Zanzibar have been 3,037 and the deliveries 2,304. Landings of Madagascar for the week ended August 8 were 363, and the deliveries 312, leaving a stock of 1,349. From January 1 to date landings of Madagascar have been 2,581 and the deliveries 2,594 packages.

Cocoa butter.—Prime English, $10\frac{3}{4}$ d. to $11\frac{1}{4}$ d. per lb.; foreign, $9\frac{3}{4}$ d. to $10\frac{1}{2}$ d. per lb., as to quantity.

COCONUT (DESICCATED).—Little activity in this market: spot, fine, 22S. 9d.; medium, 22S. 3d. per cwt.; shipment, halves, August, 21S. 6d.; September, 21S. 6d.; October-December, 21S. 9d., c.i.f. (sellers).

COLCHICUM.—Spot, small parcels, ex store, 42s. 6d. per cwt.

Dandelion Root.—Spot, foreign, about 80s. per cwt.

Derris root.—Shipment business has again been good and around rod, per lb., c.i.f., is being asked for October-November and November-December shipments (17 per cent. ether extract). The spot market is still very quiet.

Ergot.—There are no offers of Russian or Spanish, and new Portuguese is offered at 2s. rold. to 3s. 3d., c.i.f., as to seller. Good business has been done, and orders cabled at 2s. 9d. have brought back no reply.

Gentian.—There has been rather more inquiry, and spot prices range from 40s. to 42s. 6d. per cwt. for good French.

GINGER.—Business has been quiet and steady: West African, spot, 65s.; shipment, August-September (sellers), 62s. per cwt., c.i.f.; Jamaican, 85s. to 90s., spot, sold in barrels; small grinding, 62s. 6d. to 65s. per cwt., in bags, ex store.

Gum acacia.—Business has been quiet and steady: spot, Kordofan cleaned sorts, 42s.; bleached No. 1, 110s.; extra, 120s. per cwt.; shipment, Kordofan cleaned sorts, 39s. 6d. per cwt., c.i.f.

HYDRASTIS.—Business has been quite good and prices are firmer: spot, 10s. 6d. to 11s. per lb., as to test; shipment, 10s. 6d., c.i.f., for 3 per cent.

IPECACUANHA.—Good business continues to be done in B.P. Matto Grosso, Orders cabled at 4s. 8d. were not accepted, and 4s. 1od. seems a firm level: on spot, further parcels have been offered at 5s. 1\(\frac{1}{2}\)d.

LOBELIA HERB.—Little interest has been shown: spot supplies are available at 7_1^4 d. to 8d. per lb., and offers for September-October shipment are from 5_1^3 d. to 6d., as to seller.

Lycopodium.—Spot supplies are scarce. Offers for prompt shipment are now at 7s. per kilo.

Menthol.—Spot business has been good. Japanese, K/S brands, 13s. to 13s. 3d. per lb.; in bond, 11s. $7\frac{1}{2}$ d. to 11s. 9d.; shipment, September-October, 11s. $4\frac{1}{2}$ d. to 11s. 6d.; October-December offered at 11s. Chinese available at 13s., spot; September-October shipments have been sold at 11s. 1d. per lb., c.i.f. English synthetic quoted from 7s. 6d. to 10s. 6d., as to quantity.

Mercury.—Since last week there has been no further price advance and the Spanish supply is still problematical: prices, £11 19s. per bottle, f.o.b. Continent; spot, in small lots, £12 3s. per bottle, ex store.

OLIVE OIL.—No further supplies have come through from Italy or Spain and spot prices have again risen sharply in consequence. Edible, in drums, 8s. to 8s. 6d.; tins, in cases, 10s.; B.P., 2 per cent. acidity, 7s. 3d. (nominal, no sellers).

OPIUM.—Steady routine business has been done in Turkish at 1s. 2d. to 1s. 3d. per lb., spot, as to quantity. Persian, 12 per cent., 12s. 3d. per lb., in bond.

Orris root.—Material is available on the spot at 60s. per cwt., which is rather firmer.

Pepper.—Tellicherry and Aleppy are easier, both spot and forward. Lampong, in bond, 2\frac{1}{8}d.; shipment, August-October, 2d.; October-December, 2\frac{1}{6}d.; January-March, 2\frac{1}{8}d.; March-May, 2\frac{1}{8}d., c.i.f. Tellicherry, spot, 4\frac{1}{8}d.; shipment, August-October, 33s., c.i.f. Aleppy, spot, 4\frac{1}{8}d.; shipment, August-October, 31s. 6d., c.i.f. White Muntok, in bond, 4\frac{1}{8}d.; shipment, August-October, 4d.; October-December, 4d. per lb., c.i.f.

PIMENIO.—Slightly easier forward: spot, 7½d. per lb.; shipment, August-September, 66s. 6d. per cwt., c.i.f.

RED ROSES, FRENCH.—New crop is fetching 5s. per lb. Reports are that the year has not been a good one for blooms.

Rhubarb.—There has been a good demand for rhubarb. Shensi has been sold in quantity at Marseilles at 4s. 6d. to 4s. 9d. Pickings are at 2s. $7\frac{1}{2}$ d. to 2s. 9d. Rough round, all pinky, is 1s. 6d., and ordinary 1s. 5d. Shipment prices are firm at 1s. $2\frac{1}{4}$ d. for good quality (high proportion of pinky) and 1s. $1\frac{1}{4}$ d. per lb. for ordinary quality. No offers of Canton.

Rubber.—The market is not very active and spot and early shipment prices are fractionally easier: standard ribbed smoked sheet, spot, 7% d.; September, 7% d.; October-December, 716 d.; January-March, 716 d.; April-June, 716 d. per lb.

SAFFRON.—Still very short on spot and further consignments from Spain are doubtful. B.P., 1898, prime, 43s.; extra, 40s. 6d.; super, 37s. 6d. per lb., and less for bulk quantities.

Sarsaparilla.—Little inquiry. Spot, Jamaican grey, 1s. 2d. to 1s. 3d.; native, mixed colours, 1od. to 11d. per lb., as to quantity, spot.

Seeds.—Anise.—Spot, duty paid, Spanish, 67s. 6d.; Bulgarian, 29s. Canary.—Market firm; Mazagan, 27s., spot, duty paid; Spanish, quoted at 50s. to 55s. Caraway.—Dutch, 37s., duty paid, 32s. 6d. quoted f.o.b. Holland. Coriander.—Spot, Morocco wcrop, 17s., sellers, duty paid. Cumix.—Spot, Malta, 41s.; Morocco, 39s., duty paid. Fennel.—Indian, spot, 32s. 6d., sellers. Fenugreer.—Spot, Morocco, 13s. 9d., duty paid; new crop for August shipment quoted at 11s. 6d., c.i.f. Musiard.—English, 21s. 6d. to 32s. 6d. per cwt., according to quality.

Senega.—Shipment prices firm at is. 6d. to is. $6\frac{1}{2}d$. per lb., c.i.f. Spot, unchanged at is. 6d. to is. $6\frac{1}{2}d$.

Senna.—The market has been rather quiet, with little change in quotations: good green Tinnevelly leaves offer at 7d. (good bold). No. 1 at 6d.; No. 2 at 44d.; No. 3 at 3d. per lb., with off-coloured parcels available at slightly cheaper rates. The market is still poorly supplied with best quality Alexandrian hand-picked pods and prices are nominal. A third range of lower qualities offers at 1s. 3d. to 2s. 9d. per lb., and rather better business is reported in these grades.

SHELLAC.—Prices are easier all round in a quiet market: spot, standard TN orange, 54s. to 59s.; for delivery, TN, August, 54s.; October, 54s. 6d.; December, 55s.; for arrival, TN, July-August, 51s. per cwt., c.i.f.

SQUILL.—The spot price is unchanged at 35s. per cwt.

STRAMONIUM.—Good green leaves are available on spot at 40s. per cwt.

TONKA BEANS.—Quiet: spot, 4s. 3d.; shipment, new crop, firmer at 3s. per lb., c.i.f.

Tragacanih.—Prices are firm. White grades are scarce, and medium grades, quoted at £18 to £20, are becoming exhausted. More interest has been shown in the manufacturing grades at £6 to £12 ios. per cwt. July figures show 712 packages delivered in excess of landings.

Valerian Root.—Quoted on spot at 40s, per cwt. for small parcels.

Wax.—Bees'.—General position unchanged. Calcutta, bleached, spot, 135s.; shipment, November, 122s. 6d., c.i.f. Abyssinian, spot, 120s.; in bond, 108s.; shipment, 107s., c.i.f.; Benguella, spot, 120s.; shipment, 108s., c.i.f. Conakry, no spot available; shipment, 118s. 6d. per cwt., c.i.f. Dar-es-Salaam, spot, 120s.; shipment, 118s. 6d. per cwt., c.i.f. Carnauba.—Spot supplies limited; few offers. Fatty grey, spot, 165s.; afloat, 158s.; shipment, July-August, 158s., c.i.f. Chalky grey, spot, 162s. 6d.; shipment, July-August, 157s., c.i.f. Primeira, spot, good quality, 215s.; f.a.q., 205s.; afloat, 205s.; shipment, July-August, 196s., c.i.f. Mediana, spot, 205s.; shipment, 192s. 6d. per cwt., c.i.f.

Essential Oils, etc.

Cananga is very firm. Prices of Spanish oils on the spot, particularly rosemary and spike, have advanced sharply. Clove (Madagascar), eucalyptus, lemongrass and French Guinea orange are all firmer. There is considerable scarcity of eucalyptus at the source. Cassia is easier. Cinnamon, after being easier at the beginning of the week, has become firmer again.

ALMOND.—As a result of the situation in Spain there has been a sharp rise in the price of English and foreign expressed oil. English made, cwt. lots, 2s. 5½d.; smaller parcels, up to 2s. 9d. per lb.; foreign, cwt. lots, 2s. 6d.; smaller parcels, up to 2s. rod. per lb. French, bitter (essential), 6s. 3d. per lb.

ANISE (STAR).—There are still no offers from China, but supplies are available on the spot at the following prices: leads, 2s. 5d.; tins, 2s. 2½d.; drums, 2s. 1½d. per lb., ex store.

Bay.—Prices steady, with fair inquiry: 49 to 50 per cent., 4s. 9d. to 4s. 10d.; 59 to 60 per cent., 5s. to 5s. $1\frac{1}{2}$ d. per lb., as to quantity.

BERGAMOT.—There is little change in the situation here, business being practically dead: prices firm around 9s. per lb., as to brand, seller and quantity. Shipment prices nominal.

Bois de Rose.—A quiet market; prices unchanged: Brazilian, spot, 5s. to 5s. 3d.; shipment, 4s. 1od. per lb., c.i.f.

CAJUPUT.—Remains steady at last week's firmer levels: B.P., is. iod. to 2s. 2d. per lb., as to quality and quantity.

CANANGA.—A fair quantity has been sold and prices are firm: spot, 8s. 3d. to 9s., as to seller; shipment, about 8s. per lb., c.i.f.

CARAWAY.—Dutch rectified, 9s. to 9s. 12d.; crude, 8s. 6d. to 8s. 9d. per lb., landed and duty paid.

Cassia.—Little business is being done, and prices are easy at 2s. 10d. to 3s. 2d. per lb., spot, as to quality; shipment, drums, 2s. 5\frac{3}{4}d., and leads, 2s. 8\frac{1}{4}d., c.i.f.

CEDAR LEAF.—Spot, 5s. 6d. to 5s. 9d. per lb.

Cfdarwood.—Fractionally easier this week: African, in drums, is.; smaller packages, up to is. $3\frac{1}{2}d$. per lb.; American, in drums, is. $1\frac{1}{2}d$.; smaller packages, up to is. 4d. per lb.

CINNAMON LEAF.—After easing to 2s. 4d., c.i.f., the shipment price recovered later to around 2s. 5d. per lb., c.i.f. No spot business, prices quoted being from 2s. 10½d. to 3s. 1½d. per lb., as to quantity and packing.

CITRONELLA.—Quiet, but prices steady: Ceylon, spot, drums, 1s. to 1s. 1d.; smaller parcels, up to 1s. 4½d.; shipment, drums, about 8½d. per lb., c.i.f. Java, spot, drums, 1s. 3d.; smaller parcels, 1s. 4d. to 1s. 7d.; shipment, drums, 1s. 0½d. per lb., c.i.f.

Clove.—Madagascar is again firmer on the spot: drums, 3s. 4d. to 3s. 5d.; smaller packings, up to 3s. $7\frac{1}{2}$ d. per lb.; shipment, 2s. $10\frac{1}{2}$ d. per lb., c.i.f., difficult to obtain. English oil remains firm at 4s. 5d. to 4s. 6d. per lb.

ETCALYPIUS.—There is considerable scarcity at the source and offers for so to 85 per cent. have failed of acceptance: Australian, 70 to 75 per cent., tins and cases, 1s. 3d. per lb., landed; higher prices for small lots on spot; Spanish, 70 to 75 per cent., 1s. 3dd. per lb., ex store.

Grape-fruit.—No great volume of business is being done, and the prices for Empire and Californian hand-pressed are steady at 14s. to 14s. 6d. per lb., as to quantity.

Geranium.—Demand small and prices steady: Bourbon, spot, 21s. to 21s. 6d.; shipment, 19s. $7\frac{1}{2}$ d., c.i.f.; Algerian, spot, 21s. to 22s.; shipment, 20s. per lb., c.i.f.

Ho (Shiu).—Quiet: spot, is. 6d. to is. 9d. per lb., as to quality, and quantity.

JUNIPER BERRY.—Spot, from 2s. Iod. to 3s. per lb., as to quantity. LAVENDER.—A report from one source estimates, from the first distillation, a yield 20 per cent. less than last year. Other reports are awaited. Prices spoken of for new crop, 38 to 40 per cent., are from 20s. to 24s., nominal.

Lemon.—Still no movement in this market. Spot, quoted at 7s. 9d. to 8s. 9d. per lb. Californian distilled; regular quality, small drums, 3s. 9½d.; cold-pressed unchanged, 6s. 3d. per lb., c.i.f.

Lemongrass.—The shipment price is again firmer between 1s. 6d. and 1s. $6\frac{1}{2}$ d., c.i.f.; spot, nominal, 1s. 1od. per lb.

Mandarin.—Spot price easier, quoted around 27s. 6d.; shipment prices nominal, with no business being done.

Nuimeg.—Spot, 5s. 4d. to 5s. 6d. per lb., as to quantity.

Orange.—French Guinea has improved, and prices are now at 3s. 6d., spot, for drums, and up to 4s. 2d. for smaller packings. No Sicilian business.

PALMAROSA.—Unchanged: spot, from 5s. 10d. to 6s. per lb.; shipment, 5s. 6d. to 5s. 9d., c.i.f.

PAICHOULI.—Steady at the former levels: Singapore, spot, 16s. 3d. to 16s. 6d.; Seychelles, spot, 12s. to 12s. 3d. per lb.

Petitigrain.—Steady at 3s. 6d. per lb., spot, in cases; smaller quantities, up to 3s. rold,; shipment, in cases, 3s. 3d., c.i.f.

PEPPERMINT.—Japanese has attracted good spot business at prices from 6s. 1½d. to 6s. 3d. Offers for shipment, September-October, are at 5s. rod. to 6s., c.i.f.; small lots afloat at 5s. 1od. The October-December position is speculative, with buyers offering 5s. 4d. and sellers asking 5s. 6d. Chinese, spot supplies firmer at 6s.; shipment, August-September, re-sellers, 5s. 6d. American, steady at 2 dollars 40 cents to 2 dollars 55 cents per lb., as to seller.

Rosemary.—Practically none on spot, with prices up to 2s. 6d. per lb. offered. Reports from the source give conflicting forecasts of new crop prospects.

Sandalwood.—Genuine East Indian Mysore, 19s. per lb., in one-case lots on spot; practically no second-hand offerings. English-made East Indian, 22s. 6d. to 25s. per lb., as to quantity. English-made West Indian, cwt. lots, 5s. 10½d.; 56 lb., 6s. 1½d.; 14 lb., 6s. 4½d. per lb. Australian oil continues steady: 5 cases, 14s. 6d.; one case, 14s. 9d.; 7-lb. tins, 15s. 3d. per lb.

Sassafras.—Prices steady at 3s. 7d. to 3s. 9d. per lb., spot, with artificial oil at lower rates.

Spearmint.—Business has been moderate and prices are steady at the former levels: spot, 9s. 6d. per lb.; shipment, 8s. 9d. to 9s. 9d. per lb., c.i.f.

SHIKE.—Very short on spot. It is doubtful whether there are any sellers at 4s. 6d. per lb., and as much as 5s. has been asked in one quarter. From the source, opposite views have been expressed by different correspondents on the question whether harvesting will proceed normally.

TI-TREE.—Steady at 80s. per gallon, spot; for shipment, prices quoted are upwards from 52s. 6d. per gallon, c.i.f., in four-gallon tins.

Vetivert.—Bourbon, spot, about 37s. 6d. per lb.

Wormseed.—Steady at the firmer levels recorded last week. Spot, U.S.P. oil, 98. 3d.; shipment, 8s. $10\frac{1}{2}$ d. per lb., c.i.f.

Correspondence

Correspondents may adopt an assumed name, but must in all cases furnish their real name and address to the Editor

Apothecaries' Assistants

SIR,—With reference to the recent correspondence in connexion with qualified dispensers of the Society of Apothecaries, I desire to state that during my varied experience, which covers a fairly long period, I have always found the duly qualified dispenser of the Society of Apothecaries one who carries out his profession in an honourable manner, satisfactory to the public, the medical profession, and the institution in properly equipped dispensaries. . . That fact is not surprising when it is realised that he (or she) is actively engaged solely in the special work of dispensing medicines, and does not employ the majority of his time in the retailing of soaps, perfumery, photographic apparatus and pennyworths' of drugs, which constitutes the bulk of the trade conducted in chemists shops. Thus, the experience of the Society's dispensers in the dispensing of prescriptions is far greater than that of the chemist employed in shop routine. The Pharmaceutical Society recognised the above-mentioned fact when they admitted many of the Society of Apothecaries' dispensers as chemists and druggists without further examination. Moreover, the certificate is fully recognised as a satisfactory qualification for those dispensers employed in poor law institutions. Obviously, mere registration does not bestow additional skill or knowledge. Further, the Pharmaceutical Register contains . . names of persons absolutely devoid of any qualification by examination whatever. It is a very significant fact that no dispensers of the Society of Apothecaries has contravened the Dangerous Drugs Acts, the majority of offences in that respect being concerned with chemists. The apothecary of former times is the physician of to-day, and all members of the medical profession, whatever their qualification, that is to say whether they are simply Licentiates of the Society of Apothecaries, Doctors of Medicine, or Fellows of the Royal College of Physicians, have absolute and equal rights and privileges with reference to the carrying on of their profession. Therefore, there appears no reason why the duly qualified dispenser of the Society of Apothecaries should not enjoy equal rights and privileges in the profession of dispensing as those possessing other dispensing qualification.—Yours truly,

Graham Bott,
Secretary, The Association of Certificated
Dispensers.

London, S.W.

SIR,—I should like to express my agreement with "Fair Play" (C. & D., August I, p. 143). I am a director of a limited company employing pharmacists and apothecaries' assistants. I find apothecaries' assistants much more careful dispensers, who take their work seriously. I believe it is a well-known fact that no apothecaries' assistant has ever made a fatal mistake in dispensing. It is high time that apothecaries' assistants had fair play and were registered by the General Medical Council. It is also time chemists came down to earth and realised that the retail side of their business is going to other traders. If they devoted themselves to that instead of petty jealousy, pharmacy would not be in the state it is now in.—Yours faithfully,

SUBSCRIBER (12/8).

SIR,—Permit me to reply to "Fulliqual" (C. & D., August 8, p. 165). The difference in the standard of the two qualifications (Chemist and Druggist and Hall) is admitted, but the purpose of both is practically the same, being a qualification to dispense physicians' prescriptions. He then goes on to state that in both the old and the new Pharmacy Acts, "the chemist's qualification is for the retailing" (and he stresses retailing), "dispensing and compounding of poisons." As a matter of fact, the retailing of the common, everyday poisons is not reserved to chemists, and those that are so reserved few chemists would sell "on demand." My friend then states that "there is a vast difference in dispensing in a 'pharmacy and in a doctor's surgery," where stock mixtures, pills and tablets are the general rule." Is this so? From a fairly wide experience in hospitals, institutions and large panel (N.H.I.), I have found that stock mixtures, pills and tablets have also been the rule. (If this were not so, the dispensers would not be able to cope with the work.) Very rarely is anything added

outside the N.F. In fact, in private practice doctors frequently order N.H.I. mixtures, with perhaps a drachm of something potent added. So I think, with several of your correspondents, that the standard of all dispensers should be levelled up (as it is in medicine) and made registerable with the Pharmaceutical Society.—Yours truly,

FAIR PLAY (12/8.)

SIR,—The Bournemouth Conference resolution concerning apothecaries' assistants has aroused a good deal of discussion. Mr. F. Waters Robinson (C. & D., August 8, p. 165) advises the incorporation of the Apothecaries' Assistants' examination with that of the Society, and draws the conclusion that this would deprive the doctors of dispensers, and so bring dispensing back to the pharmacists. I cannot see the logic of this argument, as there is no legal obligation on doctors to employ dispensers with any qualification at all. I can remember the time when the principal doctor in the town went the round of his patients, and his coachman, after stabling the horse, used to finish his day as the dispenser. There is no reason why his modern counterpart, the chauffeur, should not fulfil the same duties—of course, under supervision. The chemist can employ an unqualified dispenser, also under supervision, but this carries a far greater responsibility than with the doctor, because the latter is not liable to inspection or testing. This question of unqualified work under supervision constitutes the weakest point in the status of pharmacy; in other professions one must be either a student or a qualified practitioner. I have always considered that the problem could be solved by an assistants' examination, and I would amend your correspondent's proposal by suggesting that the "Hall examination should be used for this purpose, and the Chemist and Druggist Qualifying examination for principals. I have in the past few months met one or two young men who have told me that the Qualifying examination is not worth while; they have completed an apprenticeship and had a year or so as assistants, and now they consider that the extended requirements of the syllabus, the expense of studying, the low percentage of passes, the long hours and small salaries obtaining afterwards constitute an obstacle which decides them not to enter. There seems to be some ground for the attitude of these young people; even the Council of the Pharmaceutical Society is taking notice of the low number of passes in the Preliminary Scientific examination, as reported at the last Council meeting (p. 150). It was pointed out that candidates concentrate on two subjects, and if they are referred in the third that can be taken again; so in spite of the larger syllabus it is doubtful whether it is really any harder for a candidate to pass now than it was in the days of the Minor examination. Faithfully yours,

AGGREGATE (10/8).

Future of Private Trading

SIR,—I agree with your correspondent "Continental" (C. & D., August I, p. 165) that multiple shops have become a powerful factor in modern retail business. In almost every town the chain stores, representing practically all types of trade, have become firmly established. The chemist has experienced the impact of this multiple competition, with results depending partly upon such circumstances as the strength of his business and partly upon his own attitude to the competition. It is quite a mistake to imagine that because a multiple firm opens a new branch, the nearest chemist must be prepared to close down sooner or later. The people who are squeezed out are often those who offer no resistance to the pressure. The private chemist has at least one asset of real value—his own personality, which can mean a great deal to him if developed and applied with skill. But success demands something more than personality. Striking window displays, adequate lighting, efficient service and fair prices will make even a small shop quite as attractive as the large store. The chemist who seeks to understand and satisfy his customer will build up a sound concern based on steady repeat business. And since there is probably no other type of business man who is better fitted to make the most of personality, the outlook

is promising. In my view, the private chemist will survive store competition, but he will need to bring all his resources to the conflict.—Yours faithfully,

RURAL CHEMIST (11/8).

Common Remedies and their Misuse

SIR,—The article on the "Misuse of Common Remedies" (C. & D., August 8, p. 153) administers some severe shocks to our regular beliefs and common practices. We know that in many cases purgatives are used too freely; but we have been taught by parents and by doctors, to say nothing of advertisers, that it is dangerous to neglect daily peristalsis. Now we are told that an interval of two or three days is relatively unimportant. Most retail chemists have met customers who have taken a course of injections but have returned later to complain that they were no better than before. The treatment of anæmia is referred to under "arsenic." Iron was the most popular remedy for this complaint, and we used to be told that the system could only assimilate a small amount daily; now the treatment consists of very large doses. Calcium lactate has been largely pre-scribed by doctors for the treatment of chilblains, but in this review it is described as being practically useless. Thus remedies are devised and recommended as being specific, till after a time another expert investigates them and condemns them as useless. Can one be surprised that after following these differences of opinions for years, and after seeing the rise and fall in popularity of one kind of treatment after another, one becomes somewhat sceptical as to the value of medical opinion?—Yours truly,

SCEPTIC (10/8).

Subscribers' Symposium

For interchange of opinion among "C. &. D." readers and brief notes on business and practical topics.

Appreciations

Accept my sincerest thanks for your reply, as also for the trouble you have taken in the matter. It is a source of great satisfaction to one in business these days that when one is puzzled by some problem or other one is able to fall back upon the C. $\stackrel{.}{\circ}$ D., knowing that if it is at all possible it will be solved.—E. D. O. (5/8).

I have to thank you for your pricing of the script I sub-itted to you, and also the cutting. The latter I have mitted to you, and also the cutting. The latter I have forwarded to my customer as a proof that I am not a profiteer. The custom of guessing the price of dispensed medicine is far more prevalent than one would imagine, and when a dispute arises it is always the chemist who charged the smaller price who is right! I find I am always safe to adhere to the C. & D. Price List. It provides a uniform system of charging, and shows a margin of profit below which no business can be run on proper lines for long.—W. C. N. (12/8).

Payment by Dosage

The suggestion made by Mr. Hossack at a recent meeting of the North British Executive has been favourably commented upon in Scottish pharmaceutical circles. If payment were based on dosage, it is held that considerable saving on the drug fund could be effected and a stop put to the prescribing of large quantities with small doses. It is time some better method was adopted; it should be realised that the present fees were based on the prescribing methods of a quarter of a century ago.—Scotia (7/7).

Slips in Prescriptions

I can add to the examples of "Quaint Directions" (C. & D., August 8, p. 165) by quoting a script I received for "4 oz. Boric Lint, 3ss. t.d.s." There seems to be considerable slackness (I nearly wrote "ignorance") in the use of Latin abbreviations by some prescribers; I frequently see "m.d.s." written after ointments and dressings when "m.d.u." is intended. The term "aa." is used very vaguely; thus, "aa. 3iv." will be written against an ointment when only a 3iv. Quantity is intended. One of the chief difficulties original. 3iv. quantity is intended. One of the chief difficulties arises from the use of the letters "a.c." and "p.c.", the "a" and the "p" being so badly shaped that they might be read as either.—Lablem (11/8).

Poisons Queries

Subscribers are asked before sending us inquiries to consult the C. & D. "Foisons Guide," also the following articles which have appeared in the C. & D.: How to Supply Poisons (January 18, p. 69); Labelling of Foisons (March 7, pp. 284, 285; Wholesale Dealing in Foisons (April 25, p. 493.)

M. B. (19/66).—Preparations for the relief of asthma in the form of cigarettes or smoking mixtures are exempt from the Poisons Schedule, so far as lobelia or stramonium is

 $D.\ E.\ H.\ (28/52).$ —As the business is at present conducted you must not use the word "Pharmacy." You ought also to obliterate the word "Druggists" on your notepaper. There is no reason why you should not become a listed seller if you

L. L. (24/61).—A liquid compound for the treatment of nasal catarrh containing o.r per cent. of chloral-camphor is an unscheduled Part I poison with sales restricted to chemists (or authorised sellers of poisons). It must be sent out in a poison bottle and labelled *inter alia* with the name and proportion of poison and also the words "Poison. Not to be taken.

W. F. (14/72).—Preparations containing less than o.or per cent. of cantharidin are outside the First Schedule and are treated as Part I poisons. In the case of a hair preparation, you will need to put on a separate label, or within a frame containing no other words, the name and proportion of the poison present, the word "Poison," the words "Not to be taken," and the name and address of the seller. The liquid must be contained in a bottle fluted vertically.

L. H. L. (17/77).—For a mouth wash containing 6 per cent. of phenol the choice of bottle is optional if the ingredients are copied in the prescription-book (i.e., Section 19 sale), otherwise a fluted bottle must be used, but the colour of it is immaterial. A mouth wash is excluded by Rule 2 from the definition medicine for the internal treatment of human ailments.' the ingredients are not entered in the prescription-book (i.e., sale under Section 18), the preparation must be labelled with the percentage of phenol, "for external use" and "poison." The last-mentioned word can be printed in any colour or on any background, but must be either surrounded by a frame or on a separate label.

N. M. L. (28/67).—A qualified medical practitioner who is not a registered pharmacist cannot become an authorised seller of poisons, nor can the pharmacist who is acting as his assistant. In fact, in the circumstances, the latter's pharmaceutical qualification is practically of no value. Under Section 19 of the Act, the medical practitioner can supply any poison which may be required for treatment. In carrying on the business, care must be taken not to use any title, emblem or description which might suggest that the business is that of an authorised seller. Section 25 (10) of the Pharmacy and Poisons Act states that a Pharmaceutical Society's inspector is not authorised to enter the premises, not being a shop, of a duly qualified medical practitioner, but where the premises are conducted as a shop the Society's inspector would presumably have the right to enter and inspect.

L. N. H. (15/66).—Your views are based upon the "assumption" that a crude drug (aconite) is a poison because it contains a poison (aconitine). The question is whether crude drugs, which are admittedly not preparations, are within the Act or not. Obviously, such decision must be made in the Act or not. Obviously such decision must be made by the law courts. Nevertheless, the facts are against the assumption that a crude drug is a poison, since this is defined as meaning "a poison included in the Poisons List." The Secretary of State has power to include "aconite" in the Poisons List or to rule that such a natural substance containing a poison is to be deemed as a poison. However, the fact remains that he has not done so, and has, furthermore, disregarded and discarded the Poisons Board's recommendation that reference to a poison includes reference to that substance in a natural product. In practice the point only affects the merchanting of crude drugs as unlisted materials. Any attempt to extend this to retail sales would defeat itself, as any form of preparation or admixture would bring a drug (such as aconite root) within the Act and Rules as a preparation (containing aconitine). As regards the Third Schedule, it should be noted that the exemption is in respect of emetine, nicotine, and so forth.

Miscellaneous Inquiries

We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

T.~K.~B.~(26/19).—Chemical barometer.—A ''storm glass'' could be made from the following formula:—

 		150 gr.
 • • •		11 dr.
 		38 gr.
 		38 gr.
 	• • •	9 dr.
•••		

Dissolve the camphor in the alcohol, and the salts in the water, then gradually add the alcoholic solution of camphor

to the aqueous solution with constant shaking.

Long narrow tubes of glass (10 in. long and $\frac{3}{4}$ in. diameter) are filled with this solution and hermetically sealed or corked. The tubes are then affixed to boards by means of wires in the same way as barometers are fixed. The changes of the solution signify the following:—Clear liquid—Bright weather; Crystals at bottom—Thick air, frost in winter; Dim liquid—Rain; Dim liquid with small stars—Thunderstorms; Large flakes—Heavy air, overcast sky, snow in winter; Threads in upper portion of liquid—Windy weather; Small dots—Damp weather, fog; Rising flakes which remain high—Wind in the upper air regions; Small stars—In winter on bright, sunny

days, snow in one or two days.

The higher the crystals rise in the glass tube in winter the

colder it will be. All the foregoing is empirical.

T. M. G. (8/84).—Dullness in dogs.—The capsule given to dogs to produce tiredness or dullness answers the tests for camphor monobromide.

C. S. (10/88).—LIQUID SHAMPOO.—To increase the lather of the liquid shampoo formula given in "Pharmaceutical Formulas," Vol. II, p. 247, the amount of soap could be increased up to 4 oz. An alternative formula is as follows:—

Coconut	oil					ξij.
Potassiui	n hyd	roxide	92 per	cent.		5iiiss.
						₹ij.
Spirit						5ij.
Saponify and						
Oleic acid	1			***	• • •	5ij. or a
6						sufficiency.
						5 j.
Water					to	Oi.

If using distilled water, a clear product is obtained that need only be strained through cloth. The oleic acid is to bring the shampoo to a ph of 8 when soap is dissolved in spirit. Olive oil soft soap, even using 4 oz. to pint, does not produce sufficient lather to please the hairdresser, but coconut oil 3j. and olive oil 3j. would probably prove satisfactory.

C. D. M. L. (13/64).—PREPARATIONS FOR BATHS.—As a disinfectant-cleansing preparation, the bath should be wiped with a little of the following solution and then washed with plain water: -

Triethanolamin	e	 	 5 j.
Oleic acid		 	 žij.
Formaldehyde		 	 ₹ vj.
Water			to 1 pint

As a peat bath place about 11 lb. of peat in the bath, sprinkle with 1 oz. of sodium bicarbonate and then fill up with

The following pine bath tonic is stated to be exceedingly refreshing: -

Triethanolamin	e				ξiij.
Spirit (I.M.S.)					ξ iij.
Oleic acid	• • •		• • •	• • •	5 V j.
Bornyl acetate Ti-tree oil	• • •	•••	• • •	• • •	5).
Pine oil	• • •	• • • •	• • • •	• • •	5 ISS. 5 VSS.
i me on					2 122.

This solution darkens after being kept a short time.

W. B. (7/77).—MANUFACTURE OF DISINFECTANTS.—No upto-date books are available on the manufacture of disinfectants. You should proceed on the lines of liquor cresol. saponatus, B.P., i.e., make a saponaceous solvent such as linseed oil soap and then add the pine, eucalyptus or carbolic. Alternatively, you could make a resin soap by dissolving caustic soda in hot water and boiling with five times its weight of resin. Another method of making a pine disinfectant is given in the C. & D., April 25, 1936.

- W. & S. (10/84).—WETTERS FOR HORTICULTURAL SPRAYS.— Soaps are most commonly used as wetters; saponin and oleates have also been suggested, but these are usually too expensive. Caseinates have been tried but are not altogether satisfactory, as they are said to leave patches after spraying. Agar agar, gelatin, albumen and gums are not of great value. In nicotine sprays it is usual to incorporate 10 lb. of soft soap per 100 gallons of wash.
- J. A. R. (20/74).—Sprays for mushroom houses.—The information you require is given in Bulletin No. 34 of the Ministry of Agriculture and Fisheries, price 1s. 3d.
- N. C. S. (11/88).—Trade Marks in India.—There is at present no Trade Mark Registration Act in force in India. The procedure usually adopted for the protection of a trade mark is to advertise in the Government "Gazette" and other papers any mark which it is proposed to use, with a description and illustration of the mark claimed. An alternative method is to file a copy under the Act for the Registration of Assurances. It is also possible to register the mark at the chambers of commerce of Upper India and Madras and at the Customs at each port, the last-mentioned registration being renewable quarterly. In none of the Native States of India is there any trade mark registration law.
- B. P. C. (10/14).—Medicine stamp duty.—Your alkaline wind and indigestion powder may be sold unstamped, under an Act of 1833, without disclosing the formula if two conditions are observed. The first condition is that it must be directed on the label "To be taken in Water"; the second is that the oil of peppermint must be used in a small proportion as a mere flavouring and not as a definite medicinal constituent of the powder so as to take it out of the exemption applicable to artificial mineral waters.

J. H. (7/82).—Ointment for cow's udder.—The following are formulas for udder ointments:-

	I		II				
Ext. bellad.		 5 j.	Petrolatum			2	lb.
Ext. phytolac.		 - 5 j. −	Spirit of camph	or		2	oz.
Adipis vel adip	. lanae	 ₹viij.	Spirit of turpen	tine		2 (οz.
			Oil of peppermi	nt			oz.
			Carbolic acid	***		1/2	oz.
			Powdered extra	ct of b	ella-		
			donna leaves			6	oz.
	HI		I	V			
Cera flav.		 3j.	Ol. olivæ			3	iv
Ung. hyd.		 3iv.	Emp. galbani			3	ij.
Ferri hydrox.		 3j.	Cera flav			31	iii
Lin, camph.		3 x.					
Apply to the pa	art twi	. Stir in a little	honev	and r	ub.	on	

udder gently twice daily. Ointments alone are not sufficient for the treatment of inflammation of the udder, which subject is fully discussed in 'Veterinary Counter Practice.'

Retrospect of Fifty Years Ago

Reprinted from
"The Chemist and Druggist," August 14, 1886

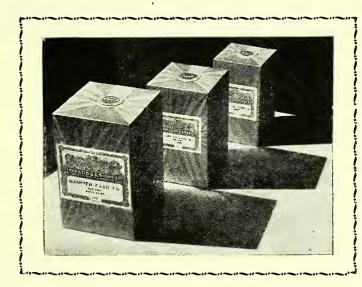
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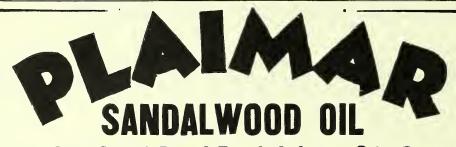
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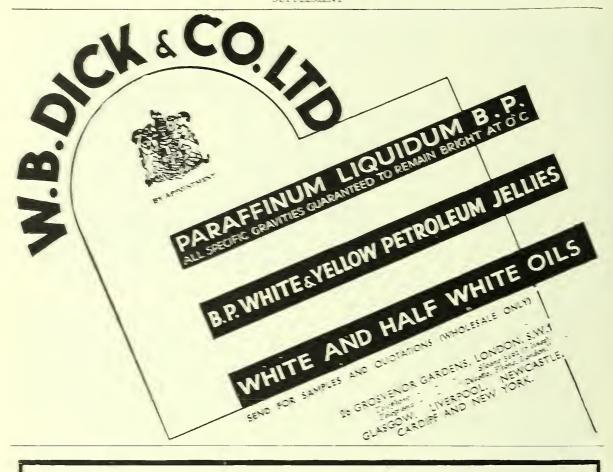
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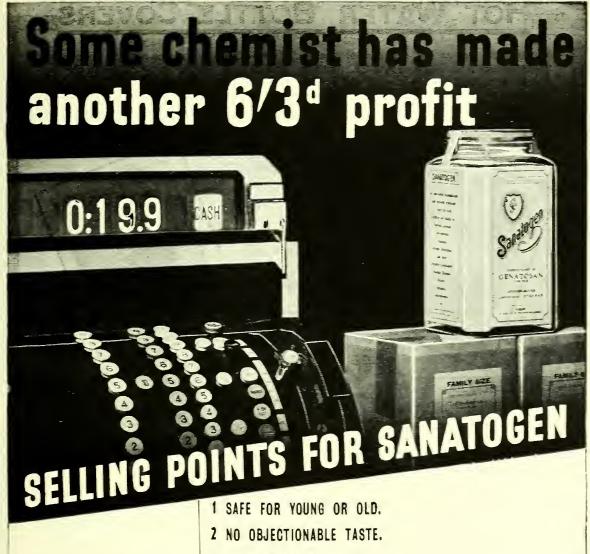
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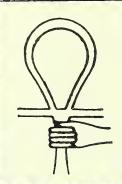




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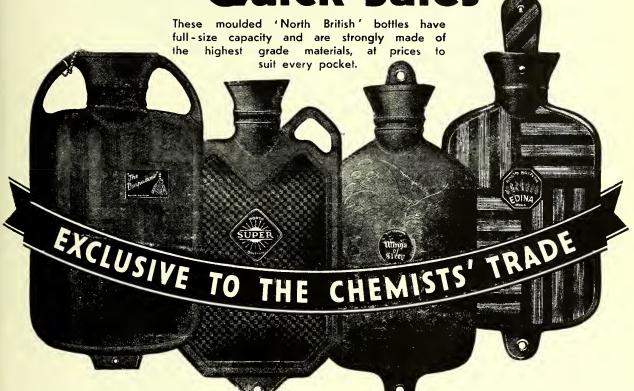
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Retail Price - - 4/11 each Trade Price - - 3/4 each On the P.A.T.A. List.

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> In addition to the above range, the well-known 'UNIQUE' and 'EDINBURGH' brand fabric bottles are still obtainable. They are hard-wearing and thoroughly reliable for hospital or nursing purposes, where the bottle is continually in use

WINGS OF SLEEP

A popular bottle, obtainable in Blue, Green, Cherry or Terra-cotta. Packed in transparent envelopes.

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The extension on the filler acts as a handle when filling or when buttoned over as a protection to the feet. Obtainable in Blue, Green, Cherry or Black In transparent envelopes.

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DRUGGIST EMIST

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28 ESSEX STREET, LONDON, W.C. 2

AUGUST 15. 1936 .

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We make no charge to purchasers, and invite intending r.—LEATHERHEAD (NEAR).—Good Middle Class old-established Retail Business situate in most attractive town; excellent Private Dispensing connection; returns exceed £3,500 per annum; excellent profits; Accountant's figures; very nice house over; further details on reccipt of a Banker's reference.

2.—LONDON, S.E.20.—Middle Class Business for sale owing to ill-health; net profit between £7 and £8 per week; living accommodation available if required; scope for increasing the turnover; price £900 all at or valuation terms entertained; stock and fixtures worth £550-£600.

3.—HOUNSLOW.—High Class Main Road Retail Business; takings average nearly £30 per week; good profits; very nice modern living accommodation over; beautifully fitted \$\$shop\$; premises can be purchased or leased at reasonable rental; price of business £1,100 all at or alternatively £300 for the goodwill, plus stock and fixtures at valuation.

4.—NORTHWOOD (NEAR).—Good Class Family Retail and Dispensing Business; takings last year £1,317, this year they will be more; gross profit over 35 per cent.; Accountant's figures; nice living accommodation over which could be had if required; price asked for business £900 all at or near offer, or valuation terms entertained.

5.—WATFORD (DEATH VACANCY).—General Retail Business for immediate disposal; takings last year £870; gross profit £454; Accountant's figures; stock and fixtures estimated to be worth approximately £450; nice living accommodation over, with bathroom; price asked £500 all at or near offer.

6.—KINGSTON (NEAR), MIDDLESEX.—General Retail Business for sale owing to retirement of Vendor; returns last year exceeded £1,550; gross profit £555; attractive shop with very nice house over; price required £650 for lease, goodwill and fixtures, plus stock at valuation, in all about £900; further details on application.

7.—CORNWALL.—For immediate disposal for genuine reason; cash Retail Business for disposal; in present hands 14 years; returns exceed £3,2 at f,8 per annum; price asked f_2 ,500 all at, or valuation terms entertained, 9.—MANCHESTER.—Good Class Retail Business for immediate disposal; increasing takings, present rate being f20 per week; gross profit

All advertisements intended for

insertion in this Supplement

40 per cent.; modern light oak fixtures; stock and fixtures estimated to be worth £518; self-contained flat over; room for garage; nice garden; price asked £550 all at or near offer.

10.—ESSEX (COUNTRY TOWN).—General Retail Business making about £650 per annum net profit, Income Tax figures; lock-up shop; rent and rates £50 per annum; price about £1,300, or valuation terms entertained tained.

tained.

11.—SOUTHAMPTON.—Well-established General Retail Business for immediate disposal; takings £16-£18 per week; gross profit about 38 per cent.; very nice fixtures; good, clean, saleable stock; rent and rates £78 per annum; price all at £250; genuine reason for disposal.

12.—HOLLAND PARK.—General Retail Business; takings present ate £16 per week; stock has been estimated to be worth £300; nice living accommodation over; rent £65 per annum; inclusive price stock, goodwill, book debts, etc. £250.

rate £16 per week; stock has been estimated to be worth £300; nicc living accommodation over; rent £65 per annum; inclusive price stock, goodwill, book debts, etc., £250.

13.—PORTSMOUTH.—Middle Class Business with N.H.I. and Photographic; returns for last completed financial year approximately £1,400; net profit £350; five-roomed flat over; price all at £850.

14.—SOUTH WALES.—Family Retail Business with Wine Licence and Photographic; established very many years ago; returns for last completed financial year £2,000; gross profit 40 per cent.; net profit £450; Audited Accounts; living accommodation; stock and fixtures worth about £1,200; price all at £1,450.

15.—MIDLANDS.—Drug Store for immediate sale; takings last year approached £1,100; gross profit £433; takings have been £2,000 to £3,000 when run under qualified management; mahogany fixtures; good, clean, saleable stock worth about £600; price £700 all at or near offer.

16.—ROMFORD (NEAR).—Business and Branch for disposal together or separately; combined turnover last year £3,200; reasonable rentals; inclusive price £1,450, or separately £450 and £1,000, respectively; further details on application.

17.—LEWISHAM (NEAR).—Middle Class General Retail and Dispensing Business; net profit last year £632; comfortable living accommodation with bathroom and garage; price all at £1,350 or near offer, or valuation terms entertained.

18.—SUFFOLK.—Much-neglected business for immediate sale; established 50 years; turnover present rate £10 per week; mahogany fixtures; Shop 20 ft. × 16 ft.; stock worth £350; nice living accommodation; garden; rent £50 per annum; rates £26 per annum; price £500 all at or near offer.

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Lancashire and District Representative: Mr. E. BROWN, 21 Davenport Road, Hazel Grove, Stockport. Telephone: Great Moor 2405

Correspondence, mutually confidential, is invited from prospective purchasers of the following businesses at present available for purchase.

Correspondence, mutually confidential, is invited from brospective purchasers of the following businesses at bresent available for purchase.

(C1) BUCKS.—Average turnover 3 years £2,450; good family business capable of increase; rent £130 and sub-let should yield £85; rates approximately £35; stock £800 at valuation; fittings £450; goodwill £650.

(C2) BIRMINGHAM SUBURB.—Old-established Pharmacy in good position; turnover £1,100; rent and rates (living accommodation) £167; property purchasable at £750; ground rent £15; total price £700, including stock £375 at valuation, fittings £300, goodwill £25; house could be used for optics, chiropody or hairdressing if desired.

(C3) YORKSHIRE.—Good industrial business, capable of increase; present turnover £985; gross profit £390; N.H.I., 200/300 monthly; rent and rates £70 128.; living accommodation sub-let at £39 but available; stock £250; fittings £75; total ingoing £350.

(C4) CHELSEA (NEAR).—Established retail business occupying prominent position in busy main thoroughfare; present returne approximately £1,850 per annum, with genuine scope for considerable further development; good N.H.I.; extremely low rental for site occupied; well stocked and fitted; reasonable purchase price.

(C5) LONDON, N.W.—Old-established, good-class business, for sale owing to retirement; present returns £1,650/£1,750 per annum, with scope for considerable further increase; very reasonable rental which includes limited residential accommodation; price by arrangement; to the right type of prospective purchaser, the owner would consider a temporary partnership arrangement, with a view to succession, or might be prepared to allow a portion of the purchase money to remain over for a reasonable period.

(C6) KENT COAST.—Attractive, modern lock-up Pharmacy, situated in crowing area; turnover for last financial vear £1221 and steadily in the prepared to allow a portion of the purchase money to remain

over for a reasonable period.

(C6) KENT COAST.—Attractive, modern lock-up Pharmacy, situated in growing area; turnover for last financial year, £1,231, and steadily increasing; branch surgery near by; good scope under personal proprietorship; price £650 or reasonably near offer.

(C7) I,ONDON, S.W.—Attractive middle-class Pharmacy showing steadily increasing returns, which are now at the rate of approximately £2,350 per annum, and should undoubtedly reach an early £3,000, consequent upon building extensions now in course of process; premises situated in congenial area; reasonable overheads; price asked £1,500, or very near offer; nothing less entertained; please supply bankers' references.

(C8) COMMERCIAI, ROAD, E.1.—Main road, lock-up Pharmacy offering excellent scope under personal proprietorship; the turnover during the past three years has shown a steady and consistent increase, and for 1935/36 exceeded £1,300; rent and rates £2 per week only; living accommodation on premises might be arranged if specially required;

venport Road, Hazel Grove, Stockport. Telephone: Great Moor 2405

payment by means of a substantial deposit and the balance by instalments will probably be considered; further details upon application.

(C9) EDGWARE ROAD (NEAR).—Lock-up Pharmacy with steadily increasing thrmover; returns for last year, £1,364; rent and rates approximately 22/- per week only; reasonable purchase price, part of which might remain under approved circumstances.

(Cro) DORSET.—Attractive modern pharmacy, entirely unopposed, occupying prominent corner position; extensive window frontage; recently established, in consequence of which the returns are low, being at the rate of approximately £850 per annum; lock-up shop, but flat above might be available if required; inclusive rental £85 per annum; exceptionally good proposition for enterprising chemist with personality; price all-at £500; the turnover in this case definitely represents no criterion of future possibilities.

(C11) NEW BARNET.—Pharmacy with living accommodation, including four bedrooms, garden, etc.; in present hands 43 years; existing returns, which average about £18 weekly, should be capable of extensive increase; rent £50 per annum; price £600, or offer.

(C12) CORNWALL,—Good family business, which during the past few years has shown a rapid increase; turnover for last financial year, £3,102; net priofit approximately £490; rent £155; price about £1,750; immediate sale desired as Owner is moving North; exceptional opportunity to acquire sound proposition at "bargain" figure.

(C13) CHESHIRE (RETIREMENT VACANCY).—Old-established business with living accommodation; no immediate opposition; turnover upwards of £1,250 per annum; net profit £375; very low rental; large N.H.I.; price £850, including stock and fixtures estimated at £540.

(C14) PORTSMOUTH (NEAR).—Recently established modern Pharmacy with no near opposition, can be purchased for the approximate value of stock and fixtures; owner unable to supervise on account of other interests; excellent future potentialities

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(Business Agency, Transfer & Valuation Department) KIMBERLEY HOUSE, and at EXCHANGE CHAMBERS, Holborn Viaduct, LONDON, E.C. 1 2 Bixteth St., LIVERPOOL. PARKIN S. BOOTH, Valuer. Tels.: CITY 3691 (4 lines). VALUATIONS, SALES OF BUSINESSES. STOCKTAKINGS. Enquiries Invited.



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BIRMINGHAM.—Old-established Pharmacy in fast growing suburb; central position, main road; Kodak agency with good Optical connection; premises could be enlarged. 71/5, Office of this Paper.

Last London.—Old-established Business in middle- and working-class district, very thickly populated; takings last financial year £2,171; good profits; also two branches with excellent scope, combined turnover £2,001; all three shops are situate in semi-main roads with good living accommodation; owner, who is retiring, will sell entirely or separately; lease can be granted or freehold purchased. 69/33, Office of this Paper.

HOVE.—Good-class Pharmacy in main road position; good residential district; double-fronted shop, well fitted; excellent scope for good business under owner-management; sound reasons for disposal; price, fittings, etc., £300; s.a.v. approximately £300; moderate rent. Apply 69/41, Office of this Paper.

L ONDON.—Drug Store, opened 6 months, few hours each day, unable to give attention; takings £6 to £7 weekly; own liues; shop just fitted with drug range, etc., good scope for energetic man with knowledge of Drug trade; stock and fixtures £100, plus £25 goodwill. Apply 62/480, Office of this Paper.

L ONDON, N.—Main Shop and Branch for Sale, in busy working-class district; nicely fitted and stocked; turnover (without optics) £5,000; gross profit 44 per cent. (auditor's figures), capable of increase under personal supervision; leases of 7½ years and 14 years respectively to run; moderate rentals; upper part of branch sub-let at £52 per annum; Optical Room at main shop; price for quick sale £3,000; vendor has other interests; near offers considered. Apply 70/7, Office of this Paper.

L ONDON, S.W.13.—Good-class Drug Store, with Hairdressing attached; double-fronted, beautifully fitted shop, lock-up (in main-road shopping centre); long lease at £85 per annum; price £36 for lease; stock (optional) and fittings at valuation; genuine bargain. Write, Advertiser, 145 White Hart Lane, Barnes, S.W.13.

CHROPSHIRE.—Old-established Pharmacy; busy main thoroughfare; average returns approximately £790 over last 3 years; Ucal Agency and own proprietaries; Freehold; Sale or Lease. Apply 67/6, Office of this Paper.

SURREY.—Well-established Pharmacy in growing residential district near London; good class Retail, Private and N.H.I. Dispensing, with large Photographic trade; ample living accommodation attached which could be sub-let; held on lease; overheads £62 per annum; stock £300; average return for last three years more than £1,250, under very indifferent management; would suit qualified man; easy to work single-handed; owner leaving pharmacy; no reasonable offer refused; no agents, please. 69/50, Office of this Paper.

TEES-SIDE.—Medium-class Business, main road large town, double-fronted shop; Kodak, Rexall; good living accommodation; could be sub-let; returns increasing; very suitable for young qualified; reasonable price. All particulars to bona fide inquiries only. 68/38, Office of this Paper.

A CHEMIST'S Business for immediate disposal, proprietor must leave London; good opportunity for right man; Kodak agency; value of stock and fixtures \$\pm\$2500-\pm\$550; willing to accept reasonable offer for quick sale. Write M.P.S., 112 Fielding Road, London, W.4.

A GENUINE opportunity awaits a LADY PHARMACIST in Fife Country Town established business, where the ratio of population is greatly in her favour; turnover 1935 £1,000; increased figures; very low overheads; lease, s.a.v. about £300£350, and first reasonable offer; details to genuine buyers at interview only. 67/8, Office of this Paper.

A SPLENDID opportunity, Boscombe; turnover average £36 per week, increasing, at very good prices; double-fronted shop, good living accommodation; main road; genuine inquiries only, with bank reference; ill-health sole reason for selling; rent £125 per annum; price £1,200 all at, or £500 plus stock and fixtures at valuation. 69/39, Office of this Paper.

PRANCH business for sale, Essex; good prospects for owner-proprietor; returns for last three years average £1,280; good Panel, and living accommodation; modern shopfront and interior; accountant's figures. Apply 68/280, Office of this Paper.

HINE opportunity to secure business with unlimited scope for increase; recently opened on New Estate with heavy population; no near opposition; rent and rates £63 per annum; ideal for man with limited capital; for quick sale will accept £350, which is value of stock and fixtures only. 64/9, Office of this Paper.

PHARMACY with very high reputation, in good position, ideally conducted and stocked, with exceptional turnover; easily worked; an outlay of £7,000/£9,000 is involved; well justified by profits; inquiries are invited from bona fide prospective purchasers, which should be accompanied by banker's reference. 285/350, Office of this Paper.

COUND old-established Cash Chemist's; well-fitted premises; goodhouse; very midst multiple companies in busiest market part of populous and progressive town under 40 miles London; valuable lease, low rent; ill-health reason offering. Principals only, write "Confident," 66/2, Office of this Paper.

BUSINESSES WANTED.

6s. for 50 words or less; 6d. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

A PRIVATE Limited Company wishes to purchase a good-class Drug Stores (with living accommodation and garden) showing a net profit of at least £250 per annum; the business must be capable of standing every investigation; furnish full particulars in first letter, which will be treated in strict confidence, to 67/1, Office of this Paper.

(1ENUINE Buyer of a Chemist Business; well situated in good working- and middle-class district; population not less than 15,000, where scope for increase; Optics and Surgical Fittings, Trusses, etc.; no objections if present "turnover" low, providing other requirements are met; replies will be treated in strict confidence; no agents. 61/8, Office of this Paper.

CENUINE buyer requires Business in good class district; takings not less than £40 per week, or slightly less if definite scope for early increase; north of and including Birmingham, Lancs or Cheshire preferred; with Optics, or genuine opening for introduction. Full details in strictest confidence to 71/3, Office of this Paper.

 $\mathbf{R}^{\mathrm{EQUIRED}}$ for Purchase.—Established Medicinal Proprietary. Write full particulars, giving annual sales, 71/1, Office of this Paper.

PREMISES TO LET.

SHOP to Let in new terrace in fine developing district, Leigh-on-Sea, Essex; no opposition; fine opportunity for a Chemist; spleudid living accommodation; moderate rent; early application advised. Full details apply "Owner," 22 Medway Crescent, Leigh-on-Sea. 'Phone 7385.

TWO Shops to Let in fine main-road positions at Mitcham, Surrey, and Gravesend, Kent; ample scope for Chemist and Photography; with or without accommodation; rental from £52 per annum. Apply Owner, "Unity" House, Dartford Road, Dartford, Kent.

BUSINESS OPPORTUNITIES

SOUTH AFRICA.—Wholesale Chemists require Novelty lines, etc., for Christmas trade. Apply Wotherspoon, 194 Bishopsgate, London.

PATENTS.

THE Owners of Patent No. 392248 for "a device for holding and treating tooth brushes during non-use" are desirous of negotiating with interested parties for the granting of licences thereunder on reasonable terms. For information apply to Messrs. Lloyd Wise & Co., No. 10 New Court, Lincoln's Inn, London, W.C.2.

THE proprietor of British Patent No. 394571, dated November 19, 1931, relating to "Catamenial Device," is desirous of entering into arrangements by way of a licence or otherwise on reasonable terms for the purpose of exploiting the above patent and ensuring its practical working in Great Britain. Inquiries to B. Singer, Steger Building, Chicago, Illinois.

TENDERS

COUNTY COUNCIL OF MIDDLESEX PUBLIC ASSISTANCE DEPARTMENT

TENDERS FOR DRUGS; DRESSINGS, SURGICAL APPLIANCES, SURGICAL INSTRUMENTS, ETC.; X-RAY, LIGHT, PATHOLOGICAL AND RADIUM REQUISITES.

THE County Council of Middlesex invites tenders for the supply of the above goods or materials for SIX MONTHS from October 1, 1936, to its several Hospitals, Institutions, Children's Homes, Offices, etc.

Forms of tender (upon which only tenders will be considered) and conditions of contract may be obtained on application, in envelope marked "L1," to the Director of Public Assistance, 3 Central Buildings (Fourth Floor), Matthew Parker Street, Westminster, S.W.1, accompanied by a stamped addressed foolscap envelope.

Sealed tenders, marked "Tender for ," must be delivered at or before 11 a.m. on Friday, August 28, 1936, addressed to "The Clerk of the Middlesex County Council, Guildhall, Westminster, S.W.1."

The Council does not bind itself to accept the lowest or any tender and reserves the right to accept any tender or part only.

Estimated quantities required are stated in the form of tender, and tenderers may tender to supply all or any one or more of the establishments concerned.

C. W. RADCLIFFE, Clerk of the County Council.

Guildhall, Westminster. August, 1936.

AGENCIES.

SOUTH AFRICA.—Wholesale Chemists require representation Pharmaceutical lines, etc. Apply Wotherspoon, 194 Bishopsgate, London.

PRUGS and Packed Goods and/or well-advertised Ready-sale Proprietary.—Agency for North half Scotland wanted. "M.P.S.," 54 Richmondhill Place, Aberdeen.

W EE-KURA, LTD. (Foot Pads), Knaresborough, have good openings for Agents working N.E., N.W., Wales, Midlands, Lancs, Abordeen, Glasgow, Edinburgh, London, S. West, Ireland and Colonies; sole wholesale buying agency on approved terms and a low minimum would be given to the right men in each area; full details first letter.

WHOLESALE House of Milk Food Producers requires First Class Agency to represent them for fast selling line, through the whole of Scotland. Replies to 67/2, Office of this Paper.

APPRENTICES.

A PPRENTICE required for high-class Dispensing and Family business; thorough training given and time allowed for study; near school for night classes; no premium; nominal salary given. Apply to Sheard, 9 Leeds Road, Harrogate.

A PPRENTICE wanted (Matriculated); three years; wages 10s., 15s., 20s. weekly. Apply A. E. Hobbs, Ltd., 33 Mount Pleasant, Tunbridge Wells.

SITUATIONS OPEN.

RETAIL (HOME).

6s. for 40 words or less; 6d. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

EAST LONDON.—Smart young Qualified Assistant required, used to N.H.I. Dispensing and busy Counter work, good prospect to right man. Apply Mabyn & Co., Ltd., 1 King David Lane, Loudon, E.1.

 $E^{\rm SSEX.--12}$ miles London; required Manager for small branch in busy locality; good Window-dresser and Counter; good living accommodation; lady not objected to. Apply, stating wage and full particulars, to 68/28, Office of this paper.

OLDERS GREEN District.—Unqualified with good Dispensing experience required; state age, experience, salary, etc. P.C.B. 214/4, Office of this Paper.

KENSINGTON, W.8.—Unqualified gentleman for high-class Pharmacy; applicant must be of good appearance and address and preferably with recent experience in similar style business; state age, latest experience, when disengaged, and salary required. 69/34, Office of this Paper.

I ONDON.—Wanted immediately, Qualified Assistants and Managers; easy hours; permanent and progressive posts for the right men; give fullest particulars in first letter of experience, salary required, when disengaged. 69/7, Office of this Paper.

 $L^{
m ONDON,\ near}$ Victoria.—Qualified Lady as Manageress; lady Assistant kept; please give full particulars and salary required. 285/349, Office of this Paper.

MAIDENHEAD.—Assistant wanted for holiday relief for four weeks commencing August 31. Please give full particulars of experience and salary required in first letter to "B," 23 College Avenue, Maidenhead.

MANCHESTER.—Young Qualified Assistant, used to quick Counter and N.H.I.; working-class district. Apply, with full particulars, salary, etc., to Tomlinsons (Manchester), Ltd., 21 and 23 Embden Street, C.-on-M., Manchester, 15.

PAIGNTON, SOUTH DEVON.—Wanted, Junior Unqualified Assistant, male or female (single), for Dispensing and Counter. Apply, with full particulars (photo if possible), references and salary required, to Mr. S. H. Lambshead, Deller's Pharmacy, Palace Avenue, Faignton.

THE Stockport I. and E. Co-operative Society, Ltd., 27/39 Chestergate, Stockport, require the services of a Junior Qualified Assistant for quick Counter trade and Dispensing; must be energetic and obliging. Application by letter only, stating age and experience, together with copies of two testimonials, to reach the Society not later than first post on Friday, August 21, 1936, endorsed "Chemist." By order of the Committee, S. Lloyd, General Secretary.

WEST END.—Unqualified Assistant required; give fullest particulars of experience, age and salary; permanent post. 69/37, Office of this Paper.

YORKSHIRE.—Qualified Manager required for Branch, or locum.

All usual particulars, including salary required, to J. F.
Watts, M.P.S., Chemist, 23 Bridge Street, Swinton, near Rotherham.

A QUALIFIED Assistant wanted for a week, one desiring a part holiday time and salary would be entertained, mutual arrangements could be made by correspondence. Smithsons, Preston Circus, Brighton.

 Λ SEMI-RETIRED Pharmacist required for position of Superintendent; light duties, easy hours; suit gentleman requiring something to occupy his time; small salary. Apply Advertiser, 5 Bank Avenue, Mitcham.

A PPLICATIONS invited from Pharmacists for permanent posts as Managers which will shortly be vacant in various districts consequent on the opening of new branches (age 25-35); capable of handling staff; good general experience Sales, Dispensing and Display. Apply to Retail Staff Manager, Timothy Whites & Taylors, Ltd., Allen House, 70 Vauxhall Bridge Road, London, S.W.1.

A UGUST 23 for a fortnight.—Wanted, a good reliable Unqualified Assistant, mainly for Dispensing. Apply to "E," 310 Gray's Inn Road, W.C.1. Terminus 3949.

CAPABLE Junior Assistant, Unqualified, required September 14, for good-class business; one used to Dispensing and with good knowledge of Photography. Apply, with full particulars, age, height, salary required, giving references, to Smalleys, Chemists, 6 and 8 Carr Street, Ipswich.

EXCEPTIONAL opportunity for ambitious young Pharmacist with small capital (about £200) to co-operate with present owner of rising young business in one of London's most healthy and attractive suburbs; this is a genuine offer, and if terms can be arranged an agreement will be drawn up to safeguard both parties; references can be exchanged. 70/5, Office of this Paper.

EXPERIENCED young lady for Dispensing; good Counter hand, nice personality. State salary and all particulars, P. H. Coe, 72 High Street, Lymington, Hants.

Clood post for Unqualified Assistant; must be well trained to Counter, Window-dressing and Photography; good salary. Green, 28 Earl Street, Coventry.

JUNIOR Assistant required for Birmingham district; used to busy Counter and N.H.I. Dispensing; neat and conscientious worker and able to do Window-dressing; please state full particulars in letter of application; if unanswered in 7 days respectfully declined. 70/11, Office of this Paper.

JUNIOR Assistant required for high-class Pharmacy; good experience in Dispensing essential; full particulars and salary required, by letter only. C. J. Reid, Pharmacist-Wine Merchant, 30 High Street, Eton, Windsor.

JUNIOR Unqualified Assistant required for Counter and Dispensing. State age, experience, salary required and when disengaged, to Mr. Tydeman, Hodders, Ltd., 5 Nelson Street, Bristol.

JUNIOR Unqualified Assistant required from September 7 for three weeks; state experience, references and salary required. H. Reynolds, 9 Becket Buildings, Worthing.

LADY Assistant required, experienced Dispenser and capable Counter Hand; for busy working-class business in North London; must be used to N.H.I. Dispensing and quick Counter trade; qualifications and full particulars with copies of testimouials, please. 69/28, Office of this Paper.

LADY locum required for a fortnight, starting August 29 or August 31. Write 6 Porchester Road, Bayswater, W.2.

LEWIS & BURROWS will shortly have vacancies for Qualified Assistants, both sexes; apply in writing, giving full particulars of previous experience. State salary required and when disengaged, to 146 Holborn Bars, London, E.C.1.

L OCUM, M.P.S., from September 1 to September 26 inclusive, of good appearance and address, with first-class experience; practical knowledge of Optics and Photography essential; excellent references required. Apply, with full particulars, to Coates, M.P.S., F.B.O.A., Littlehampton, Sussex.

OCUM, Qualified, and Qualified Assistant, lady or gentleman, for light Retail business. Write, call or 'phone FUL 0992, Venables, 246 North End Road, Fulham, S.W.6.

L ocum, Qualified, for about 3 weeks from August 31; high-class Family, Toilet, Photographic; nice business in nice district. Full particulars to Brittain, Louth, Lincs.

L OCUM, Qualified, required August 19 to September 3; no half-day or Sunday duty; assistant kept. 'Phone Walthamstow 0638 or write Reynolds, 85 Wood Street, E.17.

L OCUM, Qualified, required for 4 weeks September 7-October 3; state salary required and all particulars. Stearn, 268 Mill Road, Cambridge.

LOCUM, Qualified, young man preferred, immediately or in a week or two; 2 weeks' engagement; state terms and when free. Butcher, Curnow & Co., Ltd., 121 Station Road, Sidcup.

L OCUM required, August 24 to September 5; recently Qualified lady preferred. 'Phone: Clissold 0281.

LOCUM wanted for week August 24 to 29; please send full particulars in first letter. Timmis & Kirk, 183 High Street, Beckenham.

M.R. R. WOOLBY BROOKE will have shortly a vacancy for a tall, unmarried, Qualified Junior Assistant (male). Applicants, preferably with London experience, are asked to send particulars of themselves by post to "B.," 38 Gloucester Road, S.W.7.

ON September 1, an Unqualified male Assistant wanted (under 30) for a good-class Family and Dispensing business. Please send fullest particulars, age, height, experience, reference, salary required, and photo if possible, to Mr. F. Corfe, c/o Corfe & Son, Ltd., Chemists, Maidstone.

PHOTOGRAPHS, TESTIMONIALS, &c.

When answering advertisements in this section applicants are strongly advised not to send (unless specially requested) ORIGINAL TESTIMONIALS or VALUABLE PHOTOGRAPHS. As can be readily understood, when an advertiser receives from 100 to 150 replies the task of returning photographs, testimonials, &c., is one of some difficulty.

PART-TIME, London, W.—Unqualified (lady or gentleman), for evenings and Saturdays, or full time for an Improver just out of apprenticeship would be considered; state age, experience and salary required. 69/340, Office of this Paper.

PERMANENCY, offering good prospects to right man.—Wanted shortly for North London, a capable and experienced Qualified man with good credentials; must be used to better class business; state age, experience, when able to start and salary expected. 69/30, Office of this Paper.

QUALIFIED Assistant (Lady or Gent.) required near London; permanency to suitable applicant; suit one just qualified; no holiday or Sunday duty; usual particulars, photo if possible (returnable). P. A. G., 76 Lansdowne Road, Notting Hill, W.11, or 26 Dartford Road, Dartford, Kent.

QUALIFIED Assistant, male (under 30), wanted for Bristol district at once; permanency; must be reliable and have had N.H.I. Dispensing experience. State age, references, salary required, with photo, to 70/10, office of this Paper.

QUALIFIED Assistant Superintendent (to commence as quickly as possible); must be able to take charge if required; alert, ambitious, obliging; used to high-class modern Sales and Displays; Photographic, Veterinary, Toilet, Household Requisites, packing own specialities, etc. Send terms, photo, references, first instance, Kendalls, Chemists, Ltd., York.

QUALIFIED Assistant wanted for City Pharmacy; comfortable position, with easy hours; some knowledge of Optics preferred, but not essential. All details as to age, experience and salary required to R. Howden, 11 Fenchurch Street, E.C.3.

QUALIFIED Assistant wanted for country business, West of England, early September; must be reliable and have had N.H.I. experience; state age, references, salary required, etc. 68/11, Office of this Paper.

QUALIFIED Assistants required for Battersea and Ilford districts. Usual particulars, stating when free, to 68/25, Office of this Paper.

UALIFIED Chemist-Optician to take Part Management with principal in suburban business; smart, up-to-date shop; married man not objected to who could reside in good apartments over shop. 69/22, Office of this Paper.

QUALIFIED, for light Retail and Dispensing. State age, lieight, experience, salary required and when at liberty, references, to M.P.S., 7 Bridge Street, Bath.

QUALIFIED Lady, experienced, required by August 29. Give full particulars to Patterson, Chemist, Claygate, Surrey.

QUALIFIED locum wanted, September 16, 17, 18 and September 25 and 26; state age, salary, etc. M.P.S., 52 High Road, Chiswick, W.4.

QUALIFIED male Assistant (25), quick, accurate Dispenser and fully competent Salesman, required immediately. The Prosser Roberts Co., 13 Church Street, Camberwell, S.E.

QUALIFIED Manager wanted for branch 2 miles from town, good bus service passes the door; state age, experience, married or single, and salary expected in first letter; last manager stayed 8 years. Wharton, Chemist, Chesterfield.

RECENTLY Qualified male Assistant required, September 21, for Dispensing Counter in high-class business; please state full particulars and salary required; applications not answered in 7 days declined with thanks. J. H. Bishop, The Broadway Pharmacy, Tunbridge Wells.

PEQUIRED at end of September, Junior or Improver, male, single, for middle-class Retail, Dispensing and Photographic business; one well accustomed to N.H.I. desired; send all usual particulars, references, salary required, with photo and when disengaged; applications not answered within 7 days declined with thanks. James, 6 Grange Parade, High Road, Hayes, Middlesex.

TAYLORS BRITISH CHEMISTS require Qualified Chemists for posts in London and Birmingham district; permanent, progressive posts for suitable applicants. Apply to Retail Staff Manager, 70 Vauxhall Bridge Road, S.W.1.

TIMOTHY WHITES & TAYLORS have several vacancies for Qualified relief staff; early appointments to permanent staff to suitable applicants. Full particulars to Retail Staff Manager, Allen House, 70 Vauxhall Bridge Road, S.W.1.

UNQUALIFIED Assistant, unmarried; commencing September 14; accurate Dispenser, tactful, courteous, up-to-date Salesman; good Window-dresser and Stock-keeper (Photography and Optics). Reply with photo (returnable), copy testimonials, stating full particulars, age, experience, salary, etc., to "Chemist," Weymouth and District Co-operative Society, Ltd., Weymouth.

UNQUALIFIED Assistant wanted, permanency; must be good Dispenser and Counterman, with Photographic knowledge; Optical qualification an asset. Full particulars, references, photo, and salary required, to E. Northover, 32 Harlestone Road, Northampton.

UNQUALIFIED Junior (male) required for a permanency which will afford good experience. State age, salary required, previous experience, etc., to E. Moss, Ltd., Fern Grove, Feltham, Middx.

UNQUALIFIED lady required for a good class country business in Sussex; knowledge of Elizabeth Arden and Cyclax goods essential. Write, giving full particulars and photo if possible, to 68/15, Office of this Paper.

UNQUALIFIED or Improver wanted, mainly for Counter; premises in a London dock area, but within easy reach of Woolwich; commencing salary £2 10s. 69/9, Office of this Paper.

WANTED, a Qualified Assistant, good Salesman and Window-dresser. Write, stating age, salary, experience, when able to commence, to K., 77 High Street, Camden Town, London, N.W.1.

WANTED, August 31 and September 21, two competent male Unqualified Assistants with good-class Dispensing, Counter and Window-dressing experience. Apply, giving full particulars of experience, age, height, salary required and photo, to W. G. Bodley, Four Oaks, Sutton Coldfield.

WANTED for West Riding, Lady or Gentleman; Qualified Superintendent; light hours and duties for reasonable salary; suitedlerly or delicate person. Apply, giving particulars and salary required, 61/19, Office of this Paper.

WANTED immediately, Lady, Unqualified, with Dispensing and Retail experience. Write, stating full details of experience, age, and salary required, to Lankester & Crook, Ltd., Obelisk Road, Woolston, Southampton.

WANTED.—Qualified Assistant (age about 30); good appearance and address; energetic and capable Counterman; able to take charge. Full particulars in letter or apply personally, Gould, Chemist, 10 High Road, Chiswick. Phone: Chiswick 1428.

WANTED, Qualified Chemist, with or without Optics; locum, might lead to permanency. Full particulars to Shackletons Cash Chemists, Ltd., 502 Great West Road, Lampton, Hounslow, Middleser.

Wanted, young Qualified male Assistant, middle September; general experience; mid-Western county; state salary required. Enclose copy references to 285/347, Office of this Paper.

WANTED, young, Unqualified male Assistant, having general experience, middle September; mid-Western county; state salary required. Enclose copy references to 285/346, Office of this Paper.

WHOLESALE.

YORKSHIRE.—Representative required calling on Retail Chemists to take additional line on commission; small existing connection given. Apply 65/4, Office of this Paper.

HERE is an opportunity to join the Sales Organisation of an important firm; we offer excellent prospects in the sale of an article in daily use, supplied only through Chemists and Druggists and distributed on an extensive scale; we require diligent, energetic and experienced Representatives, with established connections amongst Retail Chemists and Druggists; full support afforded in selling, and liberal commission offered. Applications, stating qualifications and experience, accompanied by photograph if possible, to 285/345, Office of this Paper.

MEDICAL Representation.—A vacancy occurs on the staff of a leading firm for a young Pharmacist to call upon Doctors to introduce Biological and Medical Specialities; applicants need to have had experience in high-class Pharmacy. 285/359, Office of this Paper.

POWDER Puffs and Sponge Bags.—Manufacturer requires Agent calling best to medium Retail trade; large range; commission only; active connection handed over. 68/29, Office of this Paper.

PEPRESENTATIVE required by manufacturers of leading national advertised Proprietaries for West Lancashire and Cheslire; must reside on territory. Apply, giving particulars, past experience and salary required, to 285/343, Office of this Paper.

PEPRESENTATIVE required for Yorks and Durham districts for six months' vacancy (with possible permanency) with experience and connection for nationally advertised Shampoo. 285/342, Office of this Paper.

PEPRESENTATIVES for South Wales and South Coasts of England, including Eastern Counties.—Smart young Salesmen, with good connexion amongst Chemists, Druggists, Surgical Stores, etc., wanted for first-class Surgical and Medical Rubber Goods; satisfactory references required; young men with initiative and personality can build up remunerative position; liberal commissions allowed and minimum weekly earnings guaranteed. Applications to 69/5, Office of this Paper.

TRAVELLER wanted for Toilet Preparation and Patent Medicine as additional lines, commission and expenses; only those with good connection Chemists, Hairdressers and Stores considered; good scope energetic man. Write fullest particulars to P.C.B. 213/27, Office of this Paper.

WANTED by Wholesale Druggist, London, young, energetic, Qualified man, capable of making preparations on a small scale and supervision of warehouse; salary £250 to commence; some present or future capital with a view to acquiring business an advantage. W. M., 285/348, Office of this Paper.

COLONIAL, INDIAN AND FOREIGN.

GLAXO LABORATORIES, LTD.

MEDICAL REPRESENTATIVE. FOR SERVICE - ABROAD.

A FURTHER appointment of the above nature will shortly be made, and applications will be considered from single, male, Qualified Pharmacists whose age is not more than 26; previous representative experience is not necessary. The post is progressive and remuneration adequate. Candidates, who must be of sound personal character, healthy, self-reliant, and industrious, should forward full particulars of their education and business career, together with the usual personal details, including age and height, to Representative Staff Manager, Glaxo Laboratories, Ltd., Greenford, Middlesex. A photograph should be enclosed if possible, but testimonials must not be sent in the first instance.

WEST AFRICA.—Qualified Chemist; single; age 24/26; commencing salary £350 per annum; good prospects to suitable man. Apply, giving full particulars, to 285/344 Office of this Paper.

Wanted (East Africa).—Qualified Assistant Chemist, preferably with Optical qualification for extra remuneration; single; age about 35; good health, preferably abstainer; Photographic experience also desirable; 4 years' agreement; commencing £30 rising to £35 monthly; send photo with details record, copies testimonials. Apply 285/341, Office of this Paper.

We desire particularly to draw the attention of Colonial and Foreign Subscribers to the fact that in cases where they require Partners, Agents or Assistants or wish to Sell their Businesses, an Advertisement in this Supplement placed in every copy of "The Chemist and Druggist" should be the readiest means of helping them to attain their object. The tariff for such announcements is given on the front page of this Supplement. Instructions and remittances can be sent to us direct or through the advertisers' correspondents in this country.

SITUATIONS WANTED.

RETAIL (HOME).

2s. for 18 words or less; 6d. for every additional 10 words or less, prepaid. (Box No., 1s. extra.)

A.A.A.—MANAGER, Qualified, London, Suburban and West dresser, Photographic and Toilet, requires permanency. Pharmacist, 53 Crown Street, Egham, Surrey.

A.A.—YOUNG Qualified Branch Manager desires change; business; age 28; single; abstainer; Scot, seven years London. Apply 68/23, Office of this Paper.

AS Locum or Assistant; disengaged; abstainer; good references; male. H. G., 42 Alexandra Road, Southampton.

AS Manager, Assistant or locum; Qualified (31); tall; experienced London (City and Suburban), seaside and country; accustomed to shops doing big Dispensing business and fast Counter trade in high-class Toilets, Photography, etc.; excellent references; present position 6 years; free September 12. W., 2 Southville Close, West Ewell, Surrey.

A SSISTANT; all-round experience Dispensing, Counter, Photography; single; active; elderly; Unqualified. Statim, 42 Fenton Road, Lockwood, Huddersfield.

A SSISTANT Lady Dispenser seeks post (Hall); reliable and good worker; experienced; Brighton or near. 8 Prestonville Road, Brighton.

A SSISTANT, male (28), seeks position, Permanent or Locum; 12 years' all-round experience; excellent references; free September 1. 67/4, Office of this Paper.

A SSISTANT, Unqualified; tall; fully experienced all branches; whole or part time; well recommended; London area. 70/3, office of this Paper.

A SSISTANT (22; tall), Unqualified, desires locum in London or Southern suburbs (2 weeks or a month); free now; honest, well recommended, experienced. "Chemist," 1 Cumnor Road, Sutton, Surrey.

CHEMIST-CHIROPODIST.—M.P.S. and Qualified Chiropodist (M.N.I.Ch.); could run Foot Clinic, including supports and leg massage; also Dispensing, Counter; keen business man; free soon. M.P.S., 38 Mayfields, Wembley Park.

CHEMIST (28), City, West End, Suburban experience, desires permanency with firm of repute, as Manager or Senior; 10 years' experience; thorough knowledge Pharmacy. Chemist, 67 Guildford Street, W.C.1.

DISPENSER Book-keeper (Hall), young lady, desires change; Bristol area or South England; 8 years' thorough experience; excellent references. 69/20, Office of this Paper.

DISPENSER, Hall, woman, middle-aged, requires work, Doctor or Chemist. "Dispenser," c/o 58 Brighton Road, N.16.

EXPERIENCED Dispenser; all-round man; middle-aged; disengaged August 17. Ajax, 1 llillfield Avenue, Cadwell Lane, Hitchin, Herts.

NAMES AND ADDRESSES.

When sending advertisements for any of the sections in this Supplement, advertisers—as a guarantee of good faith and not necessarily for publication—should always give their names and addresses. It sometimes occurs that this rule is not followed and delay and disappointment ensue. Strict attention to this detail will be appreciated.

 $E_{\substack{\text{gaged August 23.}\\\text{Main Street, Alexandria, Dumbartonshire.}}}^{\text{XPERIENCED Qualified locum; England and Scotland; disensity}}_{\text{Son, Chemists, Main Street, Alexandria, Dumbartonshire.}}$

Hall Dispenser (experienced), with Matriculation, distinction in Chemistry, desires post, Doctor, Dentist, Chemist, etc. 27 Street Lane, Leeds, 8.

JUNIOR (20) seeks position Eastern Counties; capable Dispenser, Counterman, Window-dresser, Photographics; free one month. 25 May Road, Lowestoft.

LADY Dispenser (Hall) seeks post. Miss Lawrence, "Wican-Croft," Hawkwell Chase, Hockley, Essex.

L ADY requires Secretarial Work, one or two evenings a week; also Dispensing. 69/23, Office of this Paper.

L OCUM, experienced, Qualified; free from September 14; reasonable terms; trustworthy. Harris, 209 Chevening Road, Brondesbury Park, N.W.6.

L OCUM, free August 24 to 29 and September 7 to 19; highest references; Unqualified. E., 14 Somerfield Road, N.4.

L OCUM, Minor Qualification; first-class experience; free Angust 17-26. 10 St. Phillip's Avenue, Worcester Park, Surrey.

L OCUM, M.P.S. (22), just Qualified, wants locum work from September 27 for a few weeks. Reynolds, 15 West Avenue, Worthing.

L OCUM, Qualified, disengaged September 7 to October 3 inclusive; very well experienced. Tomalin, 215 Preston Drove, Brighton.

Locum, Qualified; experienced; free August 16 to August 23, also September 19 to 26. Reid, c/o Sparkhill Pharmacy, Ltd., 403 Stratford Road, Birmingham, 11.

L OCUM, Qualified; fully experienced and reliable; good references; free one week only beginning August 31, then after September 26; Leeds or Yorkshire districts. Baxter, 31 Tonbridge Street, Leeds, 1.

L OCUM, Qualified; varied experience; good references; one week free, August 31 to September 5 inclusive; also disengaged from September 21 onwards. S. T. Hoskins, c/o Sunman, Pharmacists, Wellington Street, Luton.

MANAGER or locum, temporary or permanent; London only; thoroughly experienced all branches Retail; Optics if required; interview if desired. 18 Brookfield Road, London, W.4.

M.P.S., F.S.M.C., J.C.Q.O. (32), married, desires situation Manager; free at short notice; capital available; living accommodation essential. 68/4, Office of this Paper.

M.P.S., MIDDLE-AGED, single, abstainer, good all-round experience, desires locum, part-time or permanency; moderate salary. P.C.B. 213/34, Office of this Paper.

PART Time, evenings, week-ends, late duties; Chelsea-Kensington district preferred; Unqualified (Part I); 8 years' experience, including West End; Dispensing, Counter and Window; prepared to live in if convenient. Wilder, 44 West Street, Marlow.

PHARMACEUTICAL Chemist, lady, Irish Qualification, desires position as Dispenser or Assistant; good experience; excellent testimonials. P.C.B. 214/2, Office of this Paper.

PROFESSIONAL Locum.—R. W. Tildesley, M.P.S., F.B.O.A., has vacant September 28 to October 10, then November onwards; 30 years' practical Retail Pharmacy; stability. "The Burlington," 168 Milton Road, Weston-super-Mare. Tel. 1302.

QUALIFIED lady (23), well experienced, desires change to Durham district. 68/16, Office of this Paper.

QUALIFIED Locum; disengaged August 24 to September 19; highest references; fully experienced. N. P. U. Jenkins, c/o Dyer, Chemist, Honiton, Devon.

QUALIFIED Manager, married, desires change, London or outer suburb, with living accommodation; possible view to succession; sound references. 69/11, Office of this Paper.

QUALIFIED Manager, thoroughly experienced and trustworthy, seeks progressive permanency as Manager; highest references; with or without living accommodation. 68/20, Office of this Paper.

QUALIFIED Manager (29) seeks post in good-class Pharmacy; private and company experience; Southern Counties preferred; free one month. 69/29, Office of this Paper.

QUALIFIED (49), desires genuine management small business or position of trust, as Representative considered. 69/49, Office of this Paper.

QUALIFIED (39), excellent references, desires responsible position, preferably where knowledge of Veterinary and Agricultural requirements would be advantageous; view to succession considered. 68/37, Office of this Paper.

QUALIFIED (25), 7 years' experience all branches, seeks permanency, Manager or Assistant; free one month or by arrangement; South Devon; managerial experience. 69/36, Office of this Paper.

U NQUALIFIED lady (23), free early September, desires post in London or near for choice; six years' experience in good-class Pharmacy, including' Toilet by Elizabeth Arden, Cyclax, etc. 68/150, Office of this Paper.

YORKSHIRE.—M.P.S. (34), single, desires permanency; experienced all branches, including Hospital, Window Display; abstainer. "Pharmacist," 132 Homestead Road, Sheffield.

WHOLESALE.

A DVERTISER desires re-engagement Representative, Southern Counties; Pharmacy trained, 16 years one firm; disengaged; own car; references excellent (details Sales Manager, 'Phone Hop. 0707). "M.," 57 Huxley Road, Welling, Kent.

A DVERTISER, with 20 years' high-class Pharmaceutical experience, desires post as Representative with good Wholesale house; resident London; interview by arrangement. 69/48, Office of this Paper.

A SSISTANT-MANAGER to old-established Manufacturers, desires change; present position offers no further scope; young; experienced all branches Retail, Wholesale and Manufacturing, Drugs, Galenicals or Cosmetics; permanency required, where initiative, conscientious work and the ability to place employer's interests first will be appreciated. 69/54, Office of this Paper.

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MANAGER (29), Qualified, single, of good appearance and personality, desires position as Representative for reliable firm; 9 years' Retail and 4 years' Office experience; conscientious worker; tactful; excellent references. "M.P.S.," "Thornlea," Burn Park Road, Sunderland.

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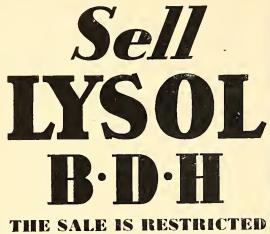
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T.G.S.